User's Manual

VC100

Phase VI Release

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Preface

Copyright and Trademark Information

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Information in this document is preliminary and subject to change and does not represent a commitment on the part of Teranex Systems, Inc.

Revision History

Version	Date	Comment	By
1.0	2007.06.11	Initial release	S. Ackerman
1.1	2007.06.26	Updated Presets, Added Audio Test Tones, Added Appendix B	S. Ackerman
1.2	2007.07.30	Updated Quick Start section	S. Ackerman
1.3	2007.09.19	Updated for Phase II release	S. Ackerman
1.31	2007.12.03	Added note about start-up time	S. Ackerman
1.42	2008.05.28	Updated for Phase III release. Adopted new layout	S. Ackerman
1.5	2008.08.14	Add VC100SD Information	S. Ackerman
1.6	2008.12.09	Updated for software release 1.20.5.1502	S. Ackerman
1.71	2009.03.04	Updated for software release 1.20.0.1584	S. Ackerman
1.81	2009.08.02	Updated for Phase VI software release	S. Ackerman

FCC Statement

Note: This equipment has been tested and found to comply with the limits for Class B digital devices, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential/office installation. The equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced Radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Safety Information

Warnings and Warning Symbols

	The Lightning Flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product enclosure, voltage that may be of sufficient magnitude to constitute a risk of shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product. WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE. OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.
	WARNING: THIS APPARATUS IS INTENDED TO BE CONNECTED TO A POWER OUTLET THAT INCLUDES A PROTECTIVE EARTHING CONNECTION (I.E. A THIRD PIN GROUND). DO NOT REMOVE THE THIRD PIN OF THE POWER CABLE OR CONNECT THE UNIT IN ANY WAY THAT DOES NOT CONNECT THIS PIN TO GROUND.

Important Safety Label Information

A label indicating important safety information is located on the top cover of the VC100 in the right rear corner.

Important Safety Instructions

- Read these instructions. Keep these instructions.
- Take note of all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade and the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged; when liquid has been spilled or objects have fallen into the apparatus; or when the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Introduction

The VC100 brings legendary Teranex image quality to the Broadcasting world. The VC100 is packed with proprietary Teranex technology, like PixelMotion™ De-interlacing and Multi-Directional Diagonal Filtering (MDDFTM) algorithms, drastically reducing jaggies on diagonal lines. Teranex's Per-Pixel Temporal Recursive Noise Reduction algorithm minimizes HD and SD video noise. Correct cadence is assured through Teranex's Per-Pixel Video/Film detection. Teranex image processing technology yields unsurpassed image quality for the demanding Broadcaster.

The Dual REALTA™ architecture includes the industry's first fully software programmable video array processor capable of performing over 1 trillion operations per second per chip. In addition it performs end-to-end true 10-bit image processing. The powerful Teranex Video Processor (TVP) core, built into the Realta, ensures flexibility and future proofing by enabling subsequent software improvements without making hardware obsolete. The Dual-Realta Module supports an I/O data path that is 32-bit and is assignable as 30-bit YCrCb or RGB.

This flexible frame synchronizer is able to handle just about any signal at its inputs and outputs in either HD or SD formats. The VC100 uses two Silicon Optix Realta image processing engines, reducing overall size while maximizing image processing capability. The result? The best possible picture from the most flexible, powerful, and user-friendly frame synchronizer available today, all in a space-saving 1RU design.

Features:

- All Feature Updates Available Online
- All Software Options are enabled via a 16 digital alpha-numeric key
- Single Channel Unit can Always be upgraded to a Dual Channel Unit
- Dual Channel Units have Two Fully Independent Processing Channels
- Flexible Digital & Analog Video and Audio I/O
- Scene Cut Detection
- Aspect Ratio Conversion with Active Fill Information
- Active Format Description (AFD)
- SD 608 & HD 708 Closed Caption Support
- Easy Setup with Intuitive User Interface
- Front Panel LCD Serves as a Video I/O Monitor & Menu Display
- Local and Remote Control Panels available
- Web Server Control
- Color Correction
- Logo Insertion
- Integrated Video & Audio Test Signals
- Discreet Audio Gain, Delay & Phase Controls
- Redundant Power Supplies

VC100 Applications

- Available AES/Analog I/O
- Available Audio Expansion Module
- Available Analog Composite & Component I/O (RGB or YCrCb)
- Available 4-field SD/HD Linear Frame-rate Conversion
- Available SD/HD Noise Reduction

VC100 Applications

- Network Feed Centers
- Mobile Truck Applications
- International Broadcast Exchange SD/HD Linear Standards Conversion
- HD Broadcast Exchange Cross Conversion
- Frame Synchronized SD Video Signal Up Conversion To HD Switchers
- Frame Synchronized HD Video Down Conversion
- Frame Synchronized SD/HD VTR Conversion and Monitoring
- Frame Synchronized SD/HD Video Noise Cleaning

Note: The VC100SD, a new member of the VC100 family, is an SD Frame Synchronizer (standard) SD Linear Standards Converter (optional) only. It does not support any HD functionality or conversions to/from HD formats.

Overview

Filters and Algorithms

PixelMotion™ De-interlacing
PixelMotion de-interlacing of video originated material produces perfect progressive frames in preparation for further processing. The processing aperture is adjusted on a pixel-by-pixel basis, which preserves all of the detail of the original interlaced image and eliminates jaggies in the output image.

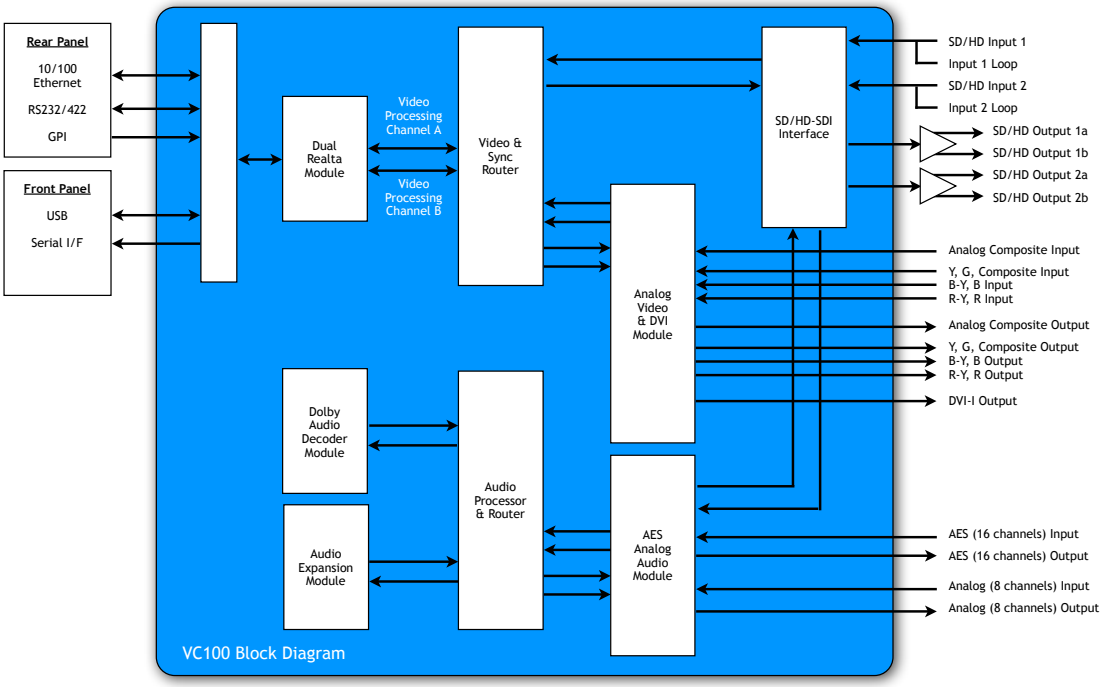
Aspect Ratio Control
Allows selection from standard aspect ratios, such as common top & bottom, common sides, 14:9 and Anamorphic. In addition, it allows for Flexview, a non-linear anamorphic aspect ratio, to be used in up-conversions.

Detail Enhancement
Is an edge-sharpening filter based on a traditional film compositing technique called "Unsharp Masking." This filter corrects any blurring introduced during image capture, compression or resampling.

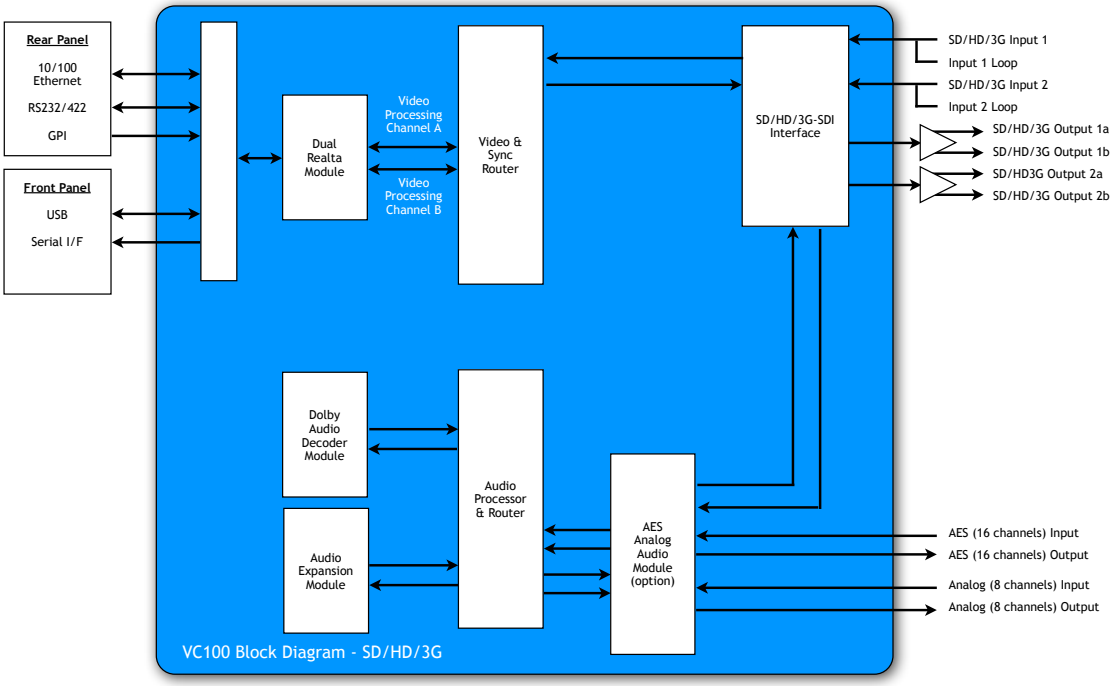
Noise Reduction
Adjustable noise reduction controls offer a greater degree of temporal recursive noise reduction with fewer artifacts. A bias control allows the aggressiveness to be fine-tuned. For filter performance testing, a Red Overlay can be applied that will color pixels that are in motion in Red.

Processing
The VC100 does not have a true bypass mode. All inputs are processed even if the input format is the same as the output format.

VC100 Block Diagram



VC100 with 3G I/O Option - Block Diagram



VC100 Formats

The VC100 supports the following formats:

Format	SDI	Analog Component	Analog Composite
480i59.94	Yes	Yes	Yes
576i50	Yes	Yes	Yes
576sf23.98	Yes	No	No
720p50	Yes	Yes	No
720p59.94	Yes	Yes	No
1080i50	Yes	Yes	No
1080i59.94	Yes	Yes	No
1080sf23.98	Yes	No	No
1080sf24	Yes	No	No
1080p24	Yes	No	No
1080sf25	Yes	No	No
1080sf29.97	Yes	No	No

Note: See Appendix C for a complete list of the supported format conversions.

VC100SD Formats

The VC100SD supports the following formats:

Format	SDI	Analog Component	Analog Composite
480i59.94	Yes	Yes	Yes
576i50	Yes	Yes	Yes

Packages

The VC100 is available in the following product configurations:

	Single Channel Configurations
VC100SD-LCP	**Frame Synchronizer** - SD-SDI Video & 16 Embedded Audio I/O with Local Control Panel, Redundant Power Supply
VC100SE-LCP	**Up/Down/Cross Converter & Synchronizer -** SD/HD-SDI Video & 16 Embedded Audio I/O with Local Control Panel, Redundant Power Supply
VC100SAA-LCP	**Up/Down/Cross Converter & Synchronizer -** SD/HD-SDI Video & 16 Embedded /16 AES/ 8 Analog audio I/O with Local Control Panel & Redundant Power Supply
VC100SCC-LCP	**Up/Down/Cross Converter & Synchronizer -** Composite/Component SD/HD-SDI Video & 16 Embedded Audio I/O with Local Control Panel & Redundant Power Supply
VC100SCCAA-LCP	**Up/Down/Cross Converter & Synchronizer -** Composite/Component/SD/HD-SDI Video, 16 Embedded/16 AES/ 8 Analog audio I/O with Local Control Panel, Redundant Power Supply
	Dual Channel Configurations
VC100SD-LCP-2CH	**Frame Synchronizer with Two Fully Independent Channels** - SD-SDI Video & 16 Embedded Audio I/O with Local Control Panel, Redundant Power Supply
VC100SE-LCP-2CH	**Up/Down/Cross Converter & Synchronizer with Two Fully Independent Channels -** SD/HD-SDI Video & 16 Embedded Audio I/O with Local Control Panel, Redundant Power Supply
VC100SAA-LCP-2CH	**Up/Down/Cross Converter & Synchronizer with Two Fully Independent Channels -** SD/HD-SDI Video & 16 Embedded /16 AES/ 8 Analog audio I/O & Audio Cable Assembly. Local Control Panel, Redundant Power Supply
VC100SCC-LCP-2CH	**Up/Down/Cross Converter & Synchronizer with Two Fully Independent Channels -** Composite/Component SD/HD-SDI Video, 16 Embedded Audio I/O with Local Control Panel & Redundant Power Supply
VC100SCCAA-LCP-2CH	**Up/Down/Cross Converter & Synchronizer with Two Fully Independent Channels -** Composite/Component/SD/HD-SDI Video, 16 Embedded/ 16 AES/ 8 Analog audio I/O & Audio Cable Assembly. Local Control Panel, Redundant Power Supply

Packages (continued)

	Basic Options (Per System)
VC1-AES-XLR	2-meter Multi-Pin AES Break out cable on XLR-3
VC1-AES-BNC	2-meter Multi-Pin AES Break out cable on BNC
VC1-ANA-XLR	2-meter Multi-Pin Analog Audio Break out cable on XLR-3
VC1-SDNR-1CH	Motion Adaptive SD Noise Reduction (Single-Channel Systems)
VC1-SDNR-2CH	Motion Adaptive SD Noise Reduction (Dual-Channel Systems)
	Advanced Options
VC1-1-2CH	Single Channel Upgrade to Full Dual Channel (for a Single Channel System)
VC1-Dual-2CH	Dual Out System Upgrade to Two Channel System (for a Single Channel System)
VC1-HDNR-1CH	Motion Adaptive SD/HD Noise Reduction per system (Single Channel System)
VC1-HDNR-2CH	Motion Adaptive SD/HD Noise Reduction per system (Dual Channel System)
VC1-SDSTDS-1CH	SD Only Standards & Frame Rate Conversion Option (Single Channel System)
VC1-SDSTDS-2CH	SD Only Standards & Frame Rate Conversion Option (Dual Channel System)
VC1-HDSTDS-1CH	SD/HD Standards & Frame Rate Conversion Option (Single Channel System)
VC1-HDSTDS-2CH	SD/HD Standards & Frame Rate Conversion Option (Dual Channel System)
	VC100 Best Picture Always (BPA) Hardware Coverage
BPA-HW-VC100	Annual BPA Program for VC100. Provides one additional year of hardware coverage
BPA-HW-VC100-3YR	Three-Year BPA Program for VC100. Provides three additional years of hardware coverage beyond initial two-year warranty

Applications

Up-/Down-conversion

In situations where the highest image quality up- or down-conversion is necessary, Teranex's VC100 uses proprietary PixelMotion™ De-interlacing, 3:2 Detection, and Detail Enhancement combined with a powerful array processing module, provides the best image solution.

The first step in the conversion process is to identify whether the input material is video or film originated. The identification process happens in a fully automatic mode and selects either PixelMotion De-interlacing for video based material or 3:2 Detection for film based material. The goal is to apply the appropriate filter in order to recover the full vertical resolution of the input material.

PixelMotion de-interlacing produces perfect progressive frames in preparation for further processing. The processing aperture is adjusted on a pixel-by-pixel basis, which preserves all of the detail of the original interlaced image. Additionally, the filter eliminates "jaggies" in the output image, providing well-defined edges on objects and producing the sharpest images possible.

3:2 Detection recognizes the redundant fields inserted by the telecine during the conversion of film to video. This advanced 3:2 pull-down filter avoids frame rate conversion artifacts and provides the highest vertical resolution and motion quality.

Since the quality of the video de-interlacing is so high, there will be no difference visible in the vertical resolution seen with film originated material and that of the de-interlaced video originated material.

Once the image has been de-interlaced and up-converted, Detail Enhancement can be applied to the image to further sharpen and enhance the output. This filter adds an additional level of image quality by helping to better define the detail in the up-converted image. Detecting the edges of objects and adjusting the contrast ratio around those objects to help separate them from the Background achieve this.

Frame-rate Conversion

Moving images exist in three dimensions. Firstly, in the horizontal direction, images are made up of individual pixels. Secondly, in the vertical direction, they are made up of the lines contained in the field or frame. The combination is referred to as the spatial domain. Thirdly, the motion image is composed of a number of fields or frames per second, which is referred to as the temporal domain.

The process of frame-rate, or standards, conversion is a form of sample rate conversion in two or three of the above dimensions. It consists of expressing moving images sampled on one three-dimensional sampling lattice to a different three-dimensional lattice.

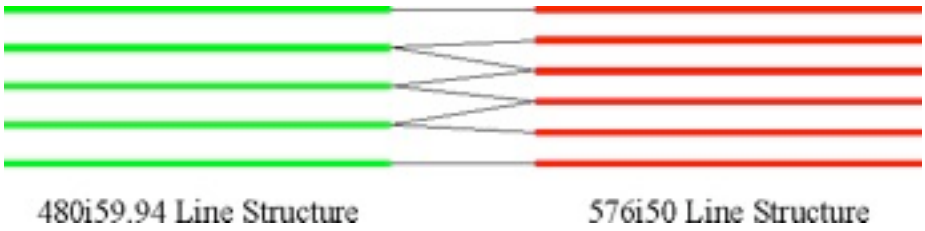
A process called interpolation is used to convert between these various spaces. Interpolation is defined as computing the value of a sample, or samples, which lie outside the sampling matrix of the source signal. In other words, it is the process of computing the values of output samples that lie between the input samples.

Teranex's per-pixel processing allows the processing aperture to be adjusted on a pixel-by-pixel basis, which preserves all of the detail of the original image.

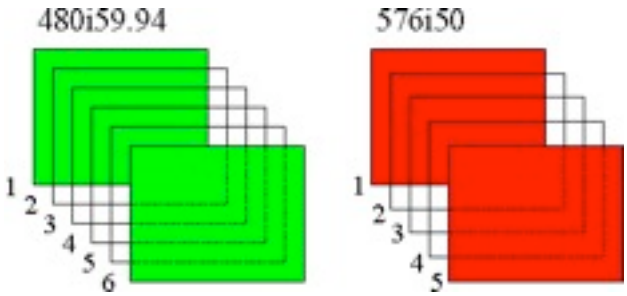
Frame-rate conversions generally involve changing the number of lines and fields (or frames) per second in an image. Examples of standards conversions include:

- 480i59.94 to 576i50
- 720p59.94 to 1080i50
- 1080i59.94 to 1080i50

If we look at a standards conversion from 480i59.94 to 576i50, we need to change two of the three parameters of the signal. The first is the number of lines in each field. A 480i signal has 240 lines per field while the 576i signal has 288 lines, as shown below.



The second parameter, which needs to be changed is the number of fields per second. The 480i signal has 59.94 fields per second while the 576i signal has 50, as shown below.



The third parameter, the number of pixels on each active picture line, does not change significantly between 480i and 576i.

Conversions involving high definition I/O require that all three domains must be changed. Examples include:

- 480i59.94 to 1080i50
- 1080i59.94 to 576i50
- 480i59.94 to 1080p23.98-sf

Frame Synchronizing

Frame Synchronization is the ability to propagate and lock a non-synchronous video signal throughout one's existing genlocked video system. The non-synchronous signal will be genlocked (timed or phased) and "Frame Synch'd" in the vertical and horizontal domains to the house reference signal, usually a Black Burst or HD Tri-Level sync signal.

Quick Start

Installation

Getting assistance with the VC100
This Quick Start Guide will help in the setup of the Teranex VC100.

However, if you need further assistance, please contact:

Technical Support Phone:
For US & Canada: 1.877.2.TERANEX (1.877.283.7263)
International: 1.407.858.6000

Technical Support e-mail:
support@teranex.com

Technical Support web site:
www.teranex.com/support

Servicing
Only authorized service personnel should open the unit. Disconnect AC sources to the power supply(ies) before servicing.

Unpacking the VC100

Open the shipping box, and remove the top foam insert.

Remove the Control Panel and place it on a flat, stable surface.

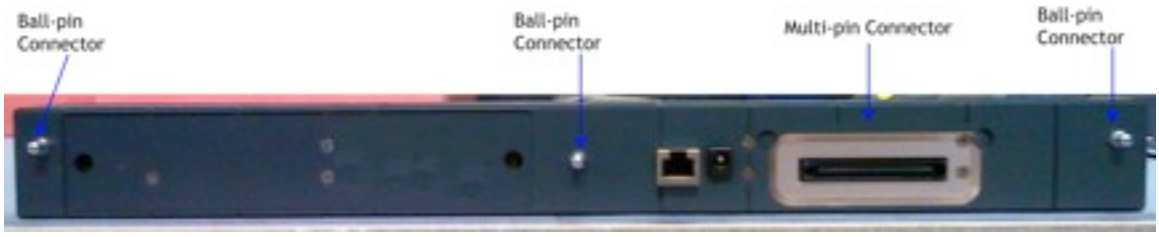
Remove the foam insert that held the Control Panel.

Unpacking the VC100

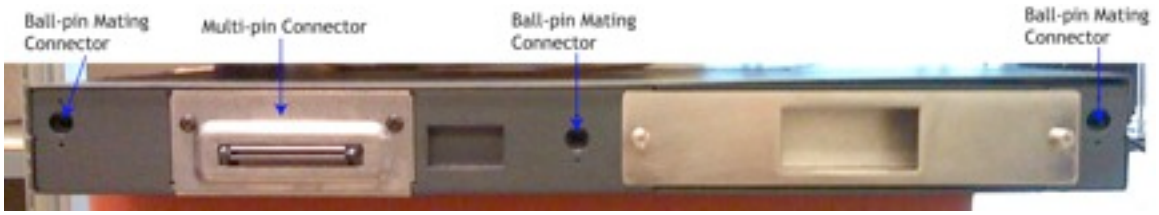
Remove the VC100 chassis and place it on a flat, stable surface.

Attaching the Control Panel

On the rear of the Control Panel, locate the multi-pin connector and the three ball-pin connectors.



On the front of the VC100 chassis, locate the multi-pin connector and the three ball-pin mating connectors.

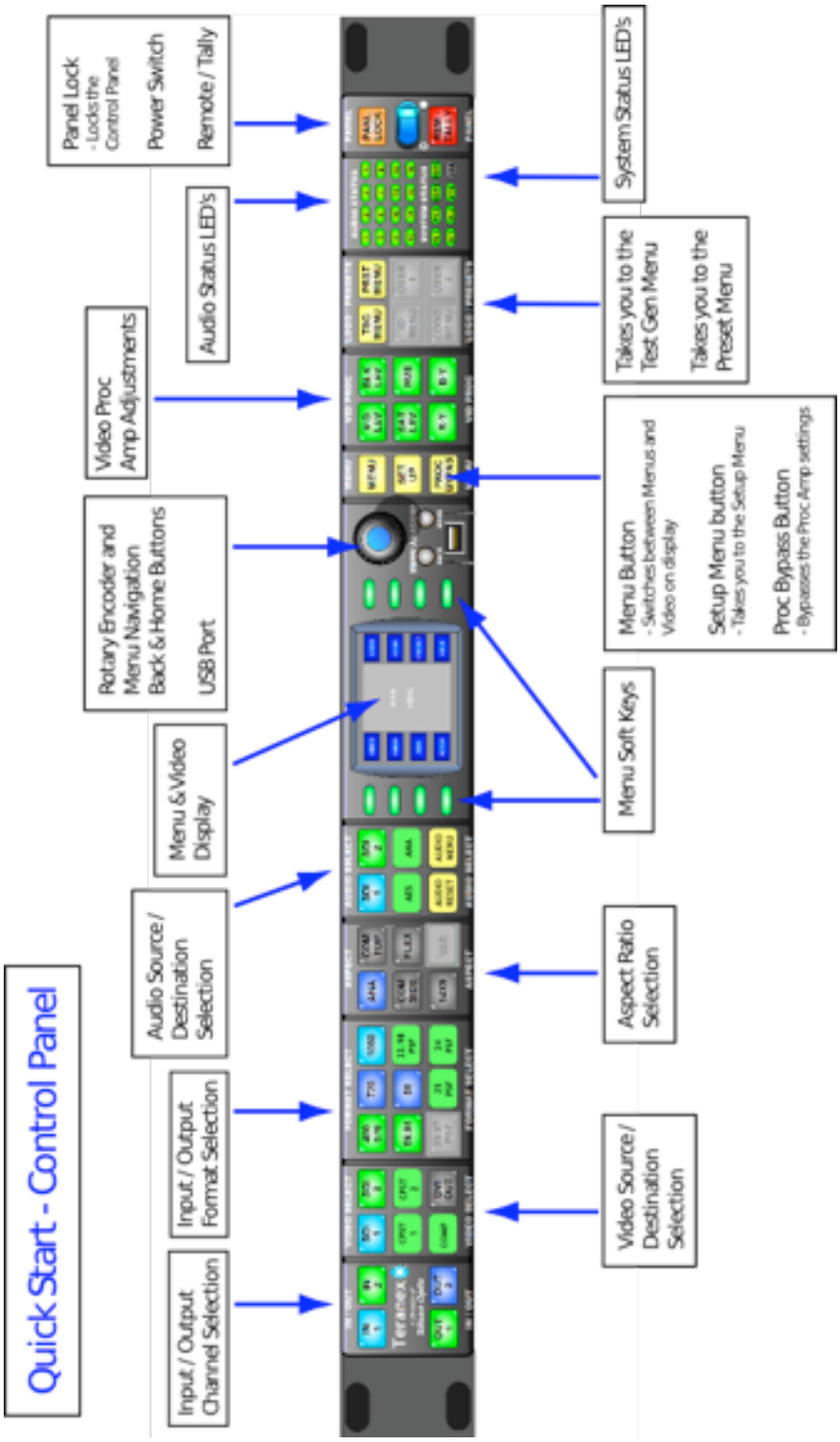


Orient the Control Panel so that the multi-pin connector and the ball-pin connectors of the Control Panel line up with the respective mates on the front of the VC100 chassis.

Slide the Control Panel towards the chassis until the multi-pin connector and ball-pins begin to mate with the Chassis.

Press firmly on the Control Panel until the multi-pin connector and ball-pins are fully seated.

Control Panel


Quick Start - Control Panel
Input / Output Channel Selection
Input / Output Format Selection
Audio Source / Destination Selection
Menu & Video Display
Rotary Encoder and Menu Navigation Back & Home Buttons
USB Port
Video Proc Amp Adjustments
Audio Status LED's
Panel Lock
- Locks the Control Panel
Power Switch
Remote / Tally
Video Source / Destination Selection
Aspect Ratio Selection
Menu Soft Keys
Menu Button
- Switches between Menus and Video on display
Setup Menu button
- Takes you to the Setup Menu
Proc Bypass Button
- Bypasses the Proc Amp settings
Takes you to the Test Gen Menu
Takes you to the Preset Menu
System Status LED's

Control Panel Logic

Note: Input/Output channel selection drives the state of all other sections of the control panel and the MenuTree.

There are two primary states for the control panel buttons/LED logic.

- The first is "Active" mode, shown by solid LED's. This mode shows the current state of the selected input or output channel.
- The second is the "Update" mode, shown by flashing LED's. This mode allows the user to change the state of the currently selected input or output channel.

Control Panel LED Color Code

Button Color	State	Mode	Comments
Red	Flashing	Update	Error condition
Orange	Flashing	Update	Warning condition
Green	Solid	All	Function is available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	Active	Indicates that the current state of the selected input or output is an interlaced or segmented frame format (all sections follow)
Blue	Flashing	Update	Indicates that the selected input or output is in Update mode and will be an interlaced or segmented frame format (all sections follow)
Magenta	Solid	Active	Indicates that the current state of the selected input or output is a progressive format (all sections follow)
Magenta	Flashing	Update	Indicates that the selected input or output is in Update mode and will be a progressive format (all sections follow)

Initial Power up and Format Changes

Note: During initial power up of the VC100 or during a format change it may take up to 30 seconds for the output to become active. During this time the output of the VC100 will be black.

Installation

Rear Panel

Standard Connections

1. PS1 – Mains input 1
   - 90-110V @ 60Hz / 200-220V @ 50Hz, Auto Detect
2. PS2 – Mains input 2
   - 90-110V @ 60Hz / 200-220V @ 50Hz, Auto Detect
3. RS232/RS422 – Serial Port
   - 1x 9-pin-D-Male, Selectable RS232 or RS422
   - User adjustable baud rate
4. GPI – General Purpose Interface
   - 1x 9-pin-D-Female
5. Linear Time Code (LTC) – Out 2 (video processing channel 2)
   - 1x BNC, LTC output
6. Linear Time Code (LTC) – In 2 (video processing channel 2)
   - 1x BNC, LTC input
7. Linear Time Code (LTC) – Out 1 (video processing channel 1)
   - 1x BNC, LTC output
8. Linear Time Code (LTC) – In 1 (video processing channel 1)
   - 1x BNC, LTC input
9. Ethernet Port (10/100 BaseT)
   - RJ-45

Rear Panel - continued

Digital Video Input/Output & Reference Input

1. Reference Input 1
   - 1x BNC, SD analog blackburst, HD tri-level sync (interlaced or progressive)
2. Reference Input 2
   - 1x BNC, SD analog blackburst, HD tri-level sync (interlaced or progressive)
3. SD/HD-SDI Output 2B (video processing channel 2)
   - 1x BNC
4. SD/HD-SDI Output 2A (video processing channel 2)
   - 1x BNC
5. SD/HD-SDI Output 1B (video processing channel 1)
   - 1x BNC
6. SD/HD-SDI Output 1A (video processing channel 1)
   - 1x BNC
7. SD/HD-SDI Input 2 Loop (Active)
   - 1x BNC
8. SD/HD-SDI Input 2 (video processing channel 2)
   - 1x BNC
9. SD/HD-SDI Input 1 Loop (Active)
   - 1x BNC
10. SD/HD-SDI Input 1 (video processing channel 1)
    - 1x BNC

Rear Panel - continued

Analog & AES Audio Connection (NOTE: Requires Analog & AES Audio Option Board)

1. Analog Audio Input/Output
   - High Density Molex LFH Connector

2. AES Audio Input/Output
   - High Density Molex LFH Connector

Note: When using the analog or AES audio cables, the cables should be secured to the rack to prevent excess stress from being placed on chassis audio connectors.

Rear Panel - continued

Analog Video Input/Output & DVI Output (NOTE: Requires Analog Video Input/Output Option Board)

1. DVI-I Output
   - 1x DVI Connector
2. Analog Component Y/G Output
   - 1x BNC
3. Analog Component Pb/B/C Output
   - 1x BNC
4. Analog Component Pr/R Output
   - 1x BNC
5. Analog Composite Output
   - 1x BNC
6. No Connection
   - 1x BNC
7. Analog Component Y/G Input
   - 1x BNC
8. Analog Component Pb/B/C Input
   - 1x BNC
9. Analog Component Pr/R Input
   - 1x BNC
10. Analog Composite Input
    - 1x BNC

Operations

This section describes the control panel options for the VC100 Video Computer. The VC100 can operate in one of two modes, local or remote.

Local Control (Full)
In the Local Control mode, the panel is physically mounted to the VC100 frame and controls this one unit. The panel establishes communication with the frame and is powered via a multi-pin header connector located between the two units.

Remote Control (Full)
In the Remote Control mode, the panel is mounted apart from the chassis. It is connected to the chassis via an Ethernet connection and powered by an external power supply. The Remote panel can be assigned to any VC100 chassis on the network. Refer to page 186 in this manual for details on connecting a Remote panel to a VC100 chassis.

Status Front Panel
The VC100 must have either a Local Control Panel (VC1-LCP) or a Status Front Panel (VC1-SFP) attached to the chassis in order to operate. In situations where the user wants to control the VC100 through a Remote Control Panel or the Web Server, a Status Front Panel may be connected to the chassis when local control is not desired.

Full Control Panel Layout
The control panel is divided into 10 Sections.

- Section 1 – Input / Output channel selection
- Section 2 – Video source selection
- Section 3 – Format (video line & frame-rate) selection
- Section 4 – Aspect Ratio selection
- Section 5 – Audio source selection
- Section 6 – Display, rotary encoder, USB port
- Section 7 – Proc Amp
- Section 8 – Logo, Channel ID
- Section 9 – Audio and System status LEDS
- Section 10 – Remote, Tally, Power Switch

Function buttons (Qty 48)

- "Soft" buttons associated with panel functions such as input select, video select, etc.

Display buttons (Qty 10)

- "Soft" buttons associated with the LCD display.
- 8 buttons for use with display
- 1 button for the Menu "Home" function
- 1 button for the Menu "Back" function

Rotary Encoder

- The rotary encoder is a linear encoder with push function.

Power switch

- A power switch is located at the right hand end of the control panel
- The power switch controls power for the control panel and the VC100 chassis by inhibiting the power supplies of the VC100.

LED's

- The VC100 Control Panel supports the following.
- Tri-Color LED's (Qty 31)
  - The LED's are red, green, blue tri-color LED's
  - All LED's in Section 1 to 5 are tri-color
- Bi-Color LED's (Qty 49)
  - The LED's are red, green, blue tri-color LED's, wired as bi-color
  - All LED's in Section 6 to 10 are configured as bi-color

LCD Display

- The VC100 Control Panel supports the following.
- 320 x 240 Color LCD Display

Control Panel Interfaces

The VC100 Control Panel supports the following:

USB port

- The port is located on the front of the control panel
- Requires USB 2.0 compliant mass storage devices

Ethernet port (for remote connections)

- The Ethernet port is located on the rear of the control panel
- The Ethernet port is 10/100 BaseT
- The Ethernet port has a user assignable IP address
- The Ethernet connection supports DHCP

Multi-pin header connector

The Multi-pin header connector is located on the rear of the control panel and carries the following:

- USB 1.1
- High-speed serial
- Video data
- Power

Power

- When used in the local configuration, the power connection from the VC100 chassis to the control panel, is a multi-pin header connector.
- When used in the remote configuration, the control panel utilizes an external 12V DC power supply.
- The power connector is located on the rear of the control panel.

Control Panel Logic

Note: Section 1, Input/Output channel selection drives the state of all other sections of the control panel and the MenuTree.

There are two primary states for the control panel button/LED logic.

- The first is "Active" mode, shown by solid LED's. This mode shows the current state of the selected input or output channel.
- The second is the "Update" mode, shown by flashing LED's. This mode allows the user to change the state of the currently selected input or output channel.

Color Code

Button Color	State	Mode	Comments
Red	Flashing	Update	Error condition
Orange	Flashing	Update	Warning condition
Green	Solid	All	Function is available, but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	Active	Indicates that the current state of the selected input or output is an interlaced or segmented frame format (all sections follow)
Blue	Flashing	Update	Indicates that the selected input or output is in Update mode and will be an interlaced or segmented frame format (all sections follow)
Magenta	Solid	Active	Indicates that the current state of the selected input or output is a progressive format (all sections follow)
Magenta	Flashing	Update	Indicates that the selected input or output is in Update mode and will be a progressive format (all sections follow)

Input/Output – Section 1

Input

IN 1 (Button) – Allows the user to configure video processing channel 1 input. The first press will place the system into the Active mode (solid LED's); the second press will place the system into the Update mode (flashing LED's).

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal present on SDI 1
Orange	Flashing	Update	Currently selected format does not match input signal on SDI 1 (manual input mode)
Green	Solid	All	***IN 1*** is available, but not selected
Cyan	Solid	Active	Shows association with currently selected output
Blue	Solid	Active	Indicates that the current state of ***IN 1*** is an interlaced or segmented frame format (all sections follow)
Blue	Flashing	Update	Indicates that ***IN 1*** is in Update mode and will be an interlaced or segmented frame format (all sections follow)
Magenta	Solid	Active	Indicates that the current state of ***IN 1*** is a progressive format (all sections follow)
Magenta	Flashing	Update	Indicates that ***IN 1*** is in Update mode and will be a progressive format (all sections follow)

IN 2 (Button) – Allows the user to configure video processing channel 2 input. The first press will place the system into the Active mode (sold LED's); the second press will place the system into the Update mode (flashing LED's).

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal present on SDI 2
Orange	Flashing	Update	Currently selected format does not match input signal on SDI 2 (manual input mode)
Green	Solid	All	***IN 2*** is available, but not selected
Cyan	Solid	Active	Shows association with currently selected output
Blue	Solid	Active	Indicates that the current state of ***IN 2*** is an interlaced or segmented frame format (all sections follow)
Blue	Flashing	Update	Indicates that ***IN 2*** is in Update mode and will be an interlaced or segmented frame format (all sections follow)
Magenta	Solid	Active	Indicates that the current state of ***IN 2*** is a progressive format (all sections follow)
Magenta	Flashing	Update	Indicates that ***IN 2*** is in Update mode and will be a progressive format (all sections follow)

Input/Output - Section 1 (continued)

Output

OUT 1 (Button) – Allows the user to configure video processing channel 1 output. The first press will place the system into the Active mode (solid LED's); the second press will place the system into the Update mode (flashing LED's).

Button Color	State	Mode	Comments
Green	Solid	All	***OUT 1*** is available, but not selected
Cyan	Solid	Active	Shows association with currently selected Input
Blue	Solid	Active	Indicates that the current state of ***OUT 1*** is an interlaced or segmented frame format (all sections follow)
Blue	Flashing	Update	Indicates that ***OUT 1*** is in Update mode and will be an interlaced or segmented frame format (all sections follow)
Magenta	Solid	Active	Indicates that the current state of ***OUT 1*** is a progressive format (all sections follow)
Magenta	Flashing	Update	Indicates that ***OUT 1*** is in Update mode and will be a progressive format (all sections follow)

OUT 2 (Button) – Allows the user to configure video processing channel 2 output. The first press will place the system into the Active mode (solid LED's); the second press will place the system into the Update mode (flashing LED's).

Button Color	State	Mode	Comments
Green	Solid	All	***OUT 2*** is available, but not selected
Cyan	Solid	Active	Shows association with currently selected Input
Blue	Solid	Active	Indicates that the current state of ***OUT 2*** is an interlaced or segmented frame format (all sections follow)
Blue	Flashing	Update	Indicates that ***OUT 2*** is in Update mode and will be an interlaced or segmented frame format (all sections follow)
Magenta	Solid	Active	Indicates that the current state of ***OUT 2*** is a progressive format (all sections follow)
Magenta	Flashing	Update	Indicates that ***OUT 2*** is in Update mode and will be a progressive format (all sections follow)
Off	n/a	All	When disabled by keyed package

Video Select – Section 2

SDI 1 (Button) – Assigns the SDI 1 Input to the currently selected input channel or SDI 1 output to the currently selected output channel. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	NEW interlaced or segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	NEW progressive source or destination selected – Press the ***Rotary Encoder*** to confirm

Note: SDI IN 1 will always be associated with SDI OUT 1.

SDI 2 (Button) - Assigns the SDI 2 Input to the currently selected input channel or SDI 2 output to the currently selected output channel. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	NEW interlaced or segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	NEW progressive source or destination selected – Press the ***Rotary Encoder*** to confirm

Note: SDI IN 2 will always be associated with SDI OUT 2.

Video Select - Section 2 (continued)

CPST 1 (Button) – Assigns the CPST 1 (analog composite 1) Input to the currently selected input channel or the CPST 1 (analog composite 1) output to the currently selected output channel. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected input or output
Blue	Flashing	Update	NEW source or destination selected – Press the ***Rotary Encoder*** to confirm

Note: CPST 1 IN and CPST 1 OUT will always be associated with video processing channel 1 (IN1).

CPST 2 (Button) – Assigns the CPST 2 (analog composite 2) Input to the currently selected input channel or the CPST 2 (analog composite 2) output to the currently selected output channel. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected input or output
Blue	Flashing	Update	NEW source or destination selected – Press the ***Rotary Encoder*** to confirm

Note: CPST 2 IN and CPST 2 OUT will always be associated with video processing channel 2 (IN2).

Note: CPST 2 IN is mutually exclusive with the Analog Component (COMP) Input, CPST 2 OUT is mutually exclusive with the Analog Component (COMP) Output.

Video Select - Section 2 (continued)

COMP (Button) – Assigns the COMP (analog component) Input to the currently selected input channel or the COMP (analog component) output to the currently selected output channel. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	NEW interlaced or segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	NEW progressive source or destination selected – Press the ***Rotary Encoder*** to confirm

Note: COMP IN is mutually exclusive with the Analog Composite (CPST 1) Input, COMP OUT is mutually exclusive with the Analog Composite (CPST 2) Output.

DVI OUT (Button) – Assigns the DVI output to the currently selected output. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected output
Blue	Solid	All	Shows the state of the currently selected output
Blue	Flashing	Update	NEW source or destination selected – Press the ***Rotary Encoder*** to confirm

Format / Frame-rate Select – Section 3

Note: During format changes, it may take up to 30 seconds for the output to become stable. During this time the output of the VC100 will be black.

480/576 (Button) – If an input channel is selected, on first press the system sets the selected input to 480 lines. On second press, the input is set to 576 lines. If one of the output channels is selected, on first press the selected output is set to 480 lines. On the second press, the output is set to 576 lines. After selecting, press the ***Rotary Encoder*** to accept.

Note: The 576 line input or output can be set to either 576i50, by pressing the ***50*** button in conjunction with the 576 selection or 576sf23.98 (Slow PAL) by pressing the 23.98 PSF button in conjunction with the 576 selection.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	NEW interlaced or segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm

720 (Button) – Sets the line rate of the currently selected input or output to 720. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	NEW progressive source or destination selected – Press the ***Rotary Encoder*** to confirm

Format / Frame-rate Select – Section 3 (continued)

1080 (Button) - Sets the line rate of the currently selected input or output to 1080. The first button press will allow selection of an interlaced or segmented from format and will be illuminated Blue. Pressing the button again will allow selection of a progressive format and will be illuminated Magenta. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	NEW interlaced or segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	NEW progressive source or destination selected – Press the ***Rotary Encoder*** to confirm

59.94 (Button) - Sets the frame rate of the currently selected input or output to either i59.94 (interlaced) or p59.94 (progressive). The first button press will allow selection of an interlaced or segmented from format and will be illuminated Blue. Pressing the button again will allow selection of a progressive format and will be illuminated Magenta. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	NEW interlaced or segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	NEW progressive source or destination selected – Press the ***Rotary Encoder*** to confirm

Format / Frame-rate Select – Section 3 (continued)

50 (Button) - Sets the frame rate of the currently selected input or output to either i50 (interlaced) or p50 (progressive). The first button press will allow selection of an interlaced or segmented from format and will be illuminated Blue. Pressing the button again will allow selection of a progressive format and will be illuminated Magenta. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	NEW interlaced source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	NEW progressive source or destination selected – Press the ***Rotary Encoder*** to confirm

23.98 PSF (Button) - Sets the frame rate of the currently selected input or output to 23.98 PSF. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected segmented frame input or output
Blue	Flashing	Update	NEW segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Not available / Future expansion
Magenta	Flashing	Update	Not available / Future expansion

Format / Frame-rate Select – Section 3 (continued)

29.97 PSF (Button) - Sets the frame rate of the currently selected input or output to 29.97 PSF. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected segmented frame input or output
Blue	Flashing	Update	NEW segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Not available / Future expansion
Magenta	Flashing	Update	Not available / Future expansion

25 PSF (Button) - Sets the frame rate of the currently selected input or output to 25 PSF. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected segmented frame input or output
Blue	Flashing	Update	NEW interlaced or segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Not available / Future expansion
Magenta	Flashing	Update	Not available / Future expansion

Format / Frame-rate Select – Section 3 (continued)

24 PSF (Button) - Sets the frame rate of the currently selected input or output to either sf24 (segmented frame) or p24 (progressive). The first button press will allow selection of the segmented frame format and will be illuminated Blue. Pressing the button again will allow selection of the progressive format and will be illuminated Magenta. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected segmented frame input or output
Blue	Flashing	Update	NEW segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	NEW progressive source or destination selected – Press the ***Rotary Encoder*** to confirm

Aspect – Section 4

ANA (Button) - Sets the aspect ratio of the selected processing channel to Anamorphic. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected processing channel
Blue	Solid	All	Shows the state of the currently selected processing channel for an interlaced or segmented frame format
Blue	Flashing	Update	NEW selection for an interlaced or segmented frame format - Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected processing channel for a progressive format
Magenta	Flashing	Update	NEW selection for a progressive format - Press the ***Rotary Encoder*** to confirm

COM TOP (Button) - Sets the aspect ratio of the selected processing channel to Common Top & Bottom. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected processing channel
Blue	Solid	All	Shows the state of the currently selected processing channel for an interlaced or segmented frame format
Blue	Flashing	Update	NEW selection for an interlaced or segmented frame format - Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected processing channel for a progressive format
Magenta	Flashing	Update	NEW selection for a progressive format - Press the ***Rotary Encoder*** to confirm

Aspect - Section 4 (continued)

COM SIDE (Button) - Sets the aspect ratio of the selected processing channel to Common Sides. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected processing channel
Blue	Solid	All	Shows the state of the currently selected processing channel for an interlaced or segmented frame format
Blue	Flashing	Update	NEW selection for an interlaced or segmented frame format - Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected processing channel for a progressive format
Magenta	Flashing	Update	NEW selection for a progressive format - Press the ***Rotary Encoder*** to confirm

FLEX (Button) - Sets the aspect ratio of the selected processing channel to Flexview. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected processing channel
Blue	Solid	All	Shows the state of the currently selected processing channel for an interlaced or segmented frame format
Blue	Flashing	Update	NEW selection for an interlaced or segmented frame format - Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected processing channel for a progressive format
Magenta	Flashing	Update	NEW selection for a progressive format - Press the ***Rotary Encoder*** to confirm

Aspect - Section 4 (continued)

14X9 (Button) – Sets the aspect ratio of the selected processing channel to 14:9. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected processing channel
Blue	Solid	All	Shows the state of the currently selected processing channel for an interlaced or segmented frame format
Blue	Flashing	Update	NEW selection for an interlaced or segmented frame format - Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected processing channel for a progressive format
Magenta	Flashing	Update	NEW selection for a progressive format - Press the ***Rotary Encoder*** to confirm

VAR (Button) – Not functional / Future expansion

Audio – Section 5

SDI 1 (Button) – Assigns the embedded audio from the SDI 1 to the currently selected input or output channel. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	NEW interlaced or segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	NEW progressive source or destination selected – Press the ***Rotary Encoder*** to confirm
Off	n/a	All	Disabled if SDI 2 is selected as the input video source

SDI 2 (Button) – Assigns the embedded audio from the SDI 2 to the currently selected input or output channel. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected interlaced or segmented frame input or output
Blue	Flashing	Update	NEW interlaced or segmented frame source or destination selected – Press the ***Rotary Encoder*** to confirm
Magenta	Solid	All	Shows the state of the currently selected progressive input or output
Magenta	Flashing	Update	NEW progressive source or destination selected – Press the ***Rotary Encoder*** to confirm
Off	n/a	All	Disabled if SDI 1 is selected as the input video source

Audio - Section 5 (continued)

AES (Button) – Assigns AES audio to the currently selected input or output channel. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected input or output
Blue	Flashing	Update	NEW source or destination selected - Press the ***Rotary Encoder*** to confirm
Off	n/a	All	Disabled if the audio daughter board is not installed

ANA (Button) – Assigns Analog audio to the currently selected input or output channel. After selecting, press the ***Rotary Encoder*** to accept.

Button Color	State	Mode	Comments
Red	Flashing	Update	No input signal (only when selected)
Green	Solid	Update	Available but not selected
Cyan	Solid	Active	Shows association with currently selected input or output
Blue	Solid	All	Shows the state of the currently selected input or output
Blue	Flashing	Update	NEW source or destination selected - Press the ***Rotary Encoder*** to confirm
Off	n/a	All	Disabled if the audio daughter board is not installed

AUDIO RESET (Button) - Not functional / Future expansion

AUDIO MENU (Button) - Takes the user to the top level Audio Menu in the MenuTree.

Button Color	State	Mode	Comments
Yellow	Solid	All	Takes you to the Audio Menu

Graphical User Interface (GUI) and Menu Controls – Section 6

Soft Buttons (8 Buttons around display) - Assigned based on current MenuTree page

Button Color	State	Mode	Comments
Green	Solid	All	Available but not selected
Yellow	Solid	All	Selected

Rotary Encoder
- Rotation – Used to navigate MenuTree or adjust sliders
- Push – Used to select front panel button selections

Back (Button) – Takes you to the previous menu
- There is no LED associated with this button

Home (Button) – Takes you to the top of the MenuTree (Main Menu)
- There is no LED associated with this button

USB Port - Allows the user to Load user preset or logo files from a USB storage device to the VC100 or Save user preset files from the VC100 to a USB storage device.

Note: The USB port supports USB version 2.0 devices only

MENU (Button) – Switches the Control Panel LCD display from active video to the top level of the the MenuTree. If pressed again, it will switch the LCD display from the MenuTree back to active video (from the currently selected input or output channel). (Acts as a toggle, but always switches between active video and the top level of the the MenuTree.)

Button Color	State	Mode	Comments
Yellow	Solid	All	Alternates the display between active video and the MenuTree

Note: Active video is not available on a Local Control Panel when the VC100 is in Service Mode.

Note: Active video is not available on a Remote Control Panel (VC1-RCP).

SETUP (Button) – Takes you to the Setup Menu on the MenuTree

Button Color	State	Mode	Comments
Yellow	Solid	All	Takes you to the Setup Menu

Graphical User Interface (GUI) and Menu Controls – Section 6 - continued

PROC BYPS (Button) – All Proc Amp, Detail Enhance, and Sharpness settings are disabled

Button Color	State	Mode	Comments
Yellow	Solid	Update	Proc Amp settings are applied to the selected processing channel
Yellow	Flashing	Update	Proc Amp settings are disabled on the selected processing channel

Vid Proc (Video Processing) – Section 7

VID LEV (Button) – Takes you to the VIDEO LEVEL control on the Proc Amp Menu of the MenuTree. The ***Rotary Encoder*** will then be used to adjust the VIDEO LEVEL.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Blue	Flashing	Update	The control is active

BLK LEV (Button) – Takes you to the BLACK LEVEL control on the Proc Amp Menu of the MenuTree. The ***Rotary Encoder*** will then be used to adjust the BLACK LEVEL.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Blue	Flashing	Update	The control is active

SAT LEV (Button) – Takes you to the SATURATION LEVEL control on the Proc Amp Menu of the MenuTree. The ***Rotary Encoder*** will then be used to adjust the SATURATION LEVEL.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Blue	Flashing	Update	The control is active

HUE (Button) – Takes you to the HUE PHASE control on the Proc Amp Menu of the MenuTree. The ***Rotary Encoder*** will then be used to adjust the HUE PHASE.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Blue	Flashing	Update	The control is active

Vid Proc (Video Processing) – Section 7 (continued)

R-Y (Button) – Takes the user to the R-Y LEVEL control on the Proc Amp Menu of the MenuTree. The ***Rotary Encoder*** will then be used to adjust the R-Y LEVEL.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Blue	Flashing	Update	The control is active

B-Y (Button) – Takes the user to the B-Y LEVEL control on the Proc Amp Menu of the MenuTree. The ***Rotary Encoder*** will then be used to adjust the B-Y LEVEL.

Button Color	State	Mode	Comments
Green	Solid	Update	Available but not selected
Blue	Flashing	Update	The control is active

Logo / Presets - Section 8

TSG MENU (Button) - Takes the user to the Video Test Signal Generator Menu of the MenuTree.

Button Color	State	Mode	Comments
Yellow	Solid	Active	Takes you to the Test Generator Menu in the MenuTree

ID MENU (Button) - Not functional / Future expansion

LOGO MENU (Button) - Takes the user to the Logo Menu of the MenuTree.

Button Color	State	Mode	Comments
Yellow	Solid	Active	Takes you to the Logo Menu in the MenuTree

PRST MENU (Button) - Takes the user to the User Presets Menu of the MenuTree.

Button Color	State	Mode	Comments
Yellow	Solid	Active	Takes you to the Presets Menu in the MenuTree

USER 1 (Button) - Not functional / Future expansion

USER 2 (Button) - Not functional / Future expansion

Audio Status & System Status – Section 9

AUDIO STATUS (LED's 1 – 16) – Shows the status of the audio channels for the currently selected video processing channel.

LED Color	State	Mode	Comments
Green	Solid	All	Active audio is present for selected processing channel
Yellow	Solid	All	DOLBY-E audio is present for selected processing channel
Red	Solid	All	Audio errors are present for selected processing channel
Off	n/a	All	No audio is present for selected processing channel

Note: The active audio status of the selected audio input will be shown by audio group(s). For example, if group 1 is detected as present, LED's 1 – 4 shall be lit.

PS1 (LED) – Shows the status of Power Supply 1

LED Color	State	Mode	Comments
Green	Solid	All	Power Supply 1 is operating properly
Red	Flashing	All	Power Supply 1 has an Error condition
Off	n/a	All	Power Supply 1 is not present

PS2 (LED) – Shows the status of Power Supply 2

LED Color	State	Mode	Comments
Green	Solid	All	Power Supply 2 is operating properly
Red	Flashing	All	Power Supply 2 has an Error condition
Off	n/a	All	Power Supply 2 is not present

Audio Status & System Status – Section 9 (continued)

REF1 (LED) – Shows the status of the signal on External Reference Input 1

LED Color	State	Mode	Comments
Red	Flashing	All	Reference 1 and the output PLL's are not locked
Yellow	Flashing	All	Reference 1 is locked but the output PLL's are not locked
Green	Solid	All	Reference 1 and the output PLL's are locked
Off	n/a	All	Processing channel 1 is set to Input reference

REF2 (LED) - Shows the status of the signal on External Reference Input 2

LED Color	State	Mode	Comments
Red	Flashing	All	Reference 2 and the output PLL's are not locked
Yellow	Flashing	All	Reference 2 is locked but the output PLL's are not locked
Green	Solid	All	Reference 2 and the output PLL's are locked
Off	n/a	All	Processing channel 2 is set to Input reference

IN1 (LED) – Shows the status of the signal assigned to the input of video processing channel 1

LED Color	State	Mode	Comments
Red	Flashing	All	No input has been detected
Yellow	Flashing	All	Input is detected but does not match the currently selected input format
Green	Solid	All	Input is valid

IN2 (LED) – Shows the status of the signal assigned to the input of video processing channel 2

LED Color	State	Mode	Comments
Red	Flashing	All	No input has been detected
Yellow	Flashing	All	Input is detected but does not match the currently selected input format
Green	Solid	All	Input is valid

Audio Status & System Status – Section 9 (continued)

SYS (LED) – Shows the status of the overall system

LED Color	State	Mode	Comments
Red	Flashing	All	Critical system error
Yellow	Flashing	All	Non-critical system error
Green	Solid	All	System is operating normally

USB (LED) – Not functional / Future expansion

Panel – Section 10

PANL LOCK (Button) – Locks the Local Control Panel. To activate or deactivate the PANEL LOCK, press and hold the button for 2 seconds.

Button Color	State	Mode	Comments
Orange	Solid	Active	Control panel operative – press & hold 2 sec. to LOCK PANEL
Orange	Flashing	Active	Control panel locked – press & hold 2 sec. to UNLOCK PANEL

Note: When the panel is locked, it will still update to show current status.

Power Switch – Inhibits both power supplies in the VC100 chassis (This control is not active when the panel is used in the remote configuration).

Color	State	Mode	Comments
Blue	Solid	Active	Power On
Off	n/a	All	Power Off

REM – TALLY (Button) - Allows the chassis to controlled by a remote control panel.

Color	State	Mode	Comments
Red	Solid	All	Prevents remote control panels from connecting to this chassis
Orange	Solid	All	Allow remote control panels to connect to this chassis

Menu Tree

Main Menu

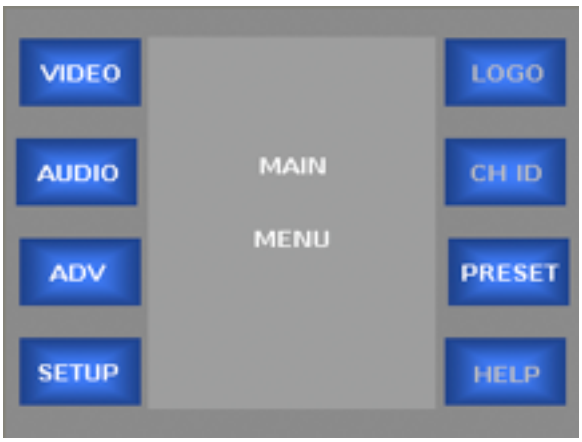
The Main menu is the top level menu in the VC100 Menu Tree. It provides access to the key functions in the menu structure.

- **VIDEO** – Takes the user to the primary Video menu
- **AUDIO** – Takes the user to the primary Audio menu
- **ADV** – Takes the user to the Advanced (features) menu
- **SETUP** – Takes the user to the Setup menu
- **LOGO** – Takes the user to the Logo menu
- CH ID – Not functional / Future expansion
- **PRESET** – Takes the user to the User Preset menu
- **HELP** – Takes the user to the Help menu

➡ Press the Back button to move to the previous menu.
➡ Press the Home button to go Back to the Main menu.

Note: See Appendix D for a complete map of the Menu Tree

Note: You can always return to this menu, regardless of where you are in the Menu Tree, by pressing the ***Home*** button located under the ***Rotary Encoder*** on the Front panel.



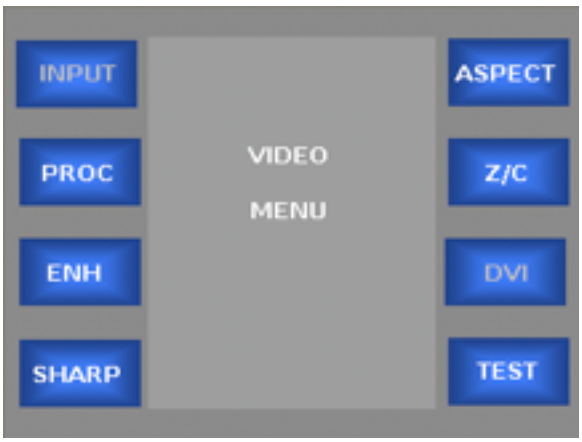
Navigation:
Main Menu

Video Menu

The Video menu provides access to the following functions:

- **INPUT** – Takes the user to the Input (Video) menu.
- **PROC** – Takes the user to the Proc (Amp) menu.
- **ENH** – Allows the user to adjust the Detail Enhance setting.
- **SHARP** – Allows the user to adjust the Sharpness setting.
- **ASPECT** – Takes the user to the Aspect Ratio menu.
- **Z/C** – Enables Zoom/Crop.
- DVI – Not functional / Future Expansion
- **TEST** – Takes the user to the video Test Signal Generator menu.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Video

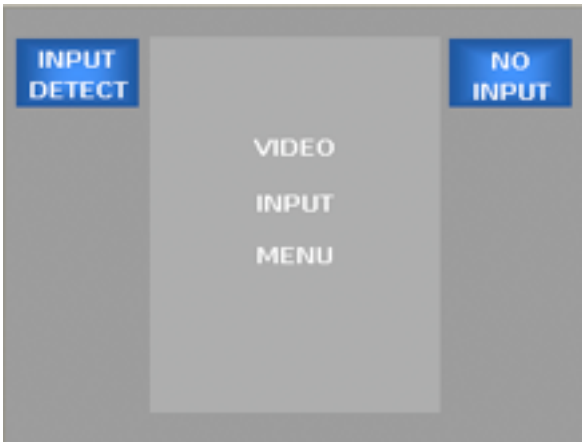
Input (Video) Menu

The Input (Video) menu allows the user to configure the input of the VC100 for automatic or manual format detection and to determine what signal the system will output when there is a loss of input.

- **INPUT DETECT** – Enables automatic input format detection.
- **NO INPUT** – Determines what the VC100 will output when the input video signal is lost.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: This selection applies for the currently selected processing channel (e.g. In 1). If you have a two-channel VC100, you must enable Automatic input format detection independently for the second input.



Navigation:
Main Menu > Video > Input

Input Detect Menu

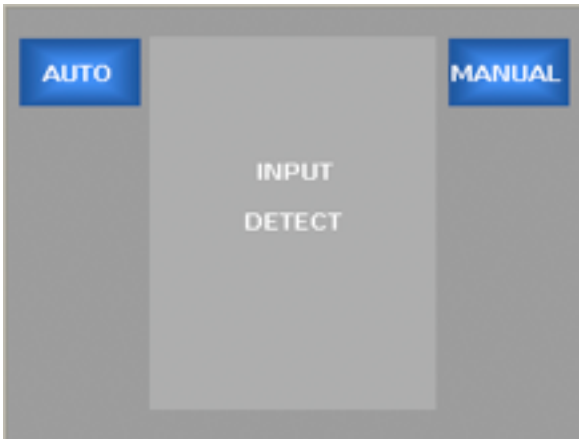
The Input Detect menu enables automatic input format detection.

- **Auto** - Enables automatic detection of the input format for the selected input source.
- **Manual** - Allows the user to manually select the input format via the front panel format selection buttons.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Automatic input format detection is only available for SD/HD-SDI inputs at this time. Format selection for analog composite and analog component inputs must be done manually.

Note: Automatic input format detection is only done within the currently selected input source.



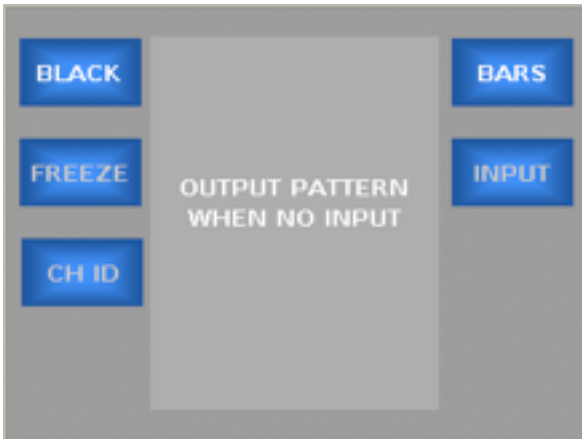
Navigation:
Main Menu > Video > Input > Input Detect

No Input Menu

The No Input menu determines what signal the VC100 will output when the video input is lost.

- **BLACK** – The VC100 will output Black on loss of video input.
- FREEZE – The VC100 will Freeze on the last input frame.
- CH ID - Not functional / Future expansion.
- **BARS** – The VC100 will output Color Bars on loss of video input.
- INPUT – Not functional / Future expansion.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu..



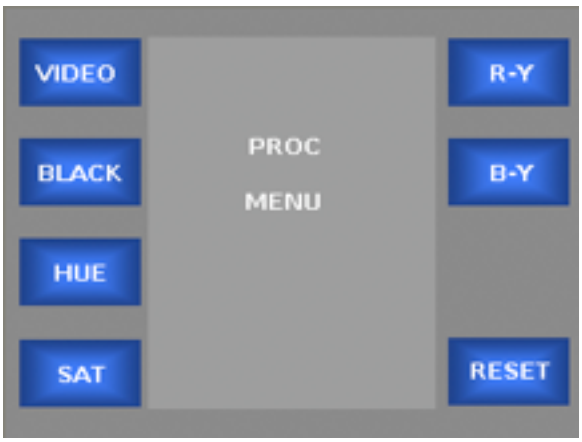
Navigation:
Main Menu > Video > Input - No Input

Proc (Amp) Menu

The Proc (Amp) menu provides access to the following functions:

- **VIDEO** – Adjusts the Video Gain for the currently selected video processing channel.
- **BLACK** – Adjusts the Black Level for the currently selected video processing channel.
- **HUE** – Adjusts the Hue Phase for the currently selected video processing channel.
- **SAT** – Adjusts the Saturation for the currently selected video processing channel
- **R-Y** – Adjusts the R-Y Level for the currently selected video processing channel.
- **B-Y** – Adjusts the B-Y Level for the currently selected video processing channel.
- **RESET** - Resets all Proc Amp settings for the currently selected video processing channel.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Video > Proc

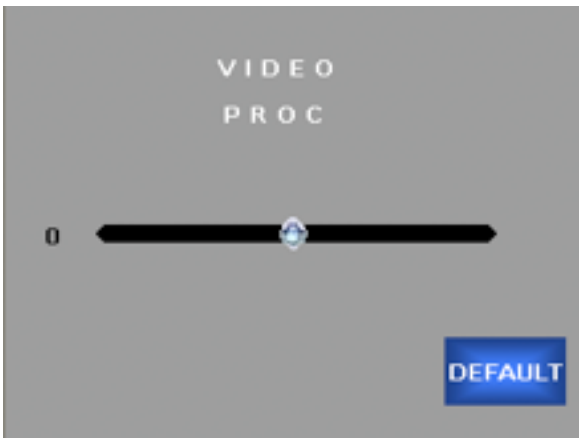
Video (Gain) Slider

Adjusts the Video Gain for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -6.0dB to +6.0dB.
  - The default setting is 0dB.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Video gain is defined as the range of light-to-dark values of the image, which are proportional to the voltage difference between the black and white voltage levels of the video signal. Video gain is related to the contrast of the video image.



Navigation:
Main Menu > Video > Proc > Video

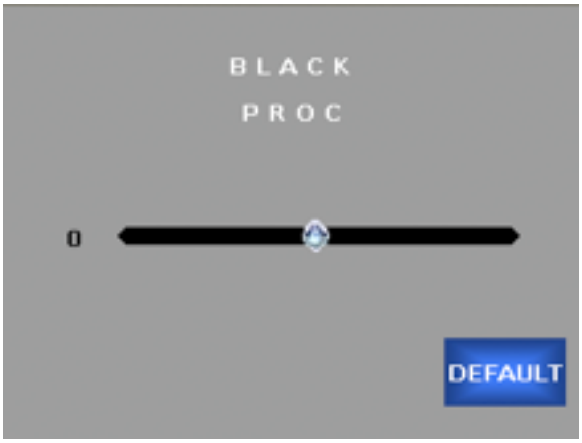
Black (Level) Slider

Adjusts the Black Level for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -30mV to +30mV.
  - The default setting is 0mV.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Black level is defined as the voltage, which represents the light level of a video signal reproducing the black areas of an image.



Navigation:
Main Menu > Video > Proc > Black

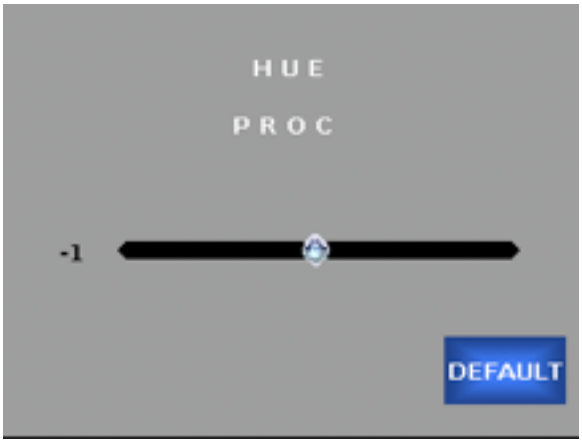
Hue (Phase) Slider

Adjusts the Hue Phase for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -179 degrees to +178 degrees.
  - The default setting is 0 degrees.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Hue is defined as the actual color that appears in a video image.



Navigation:
Main Menu > Video > Proc > Hue

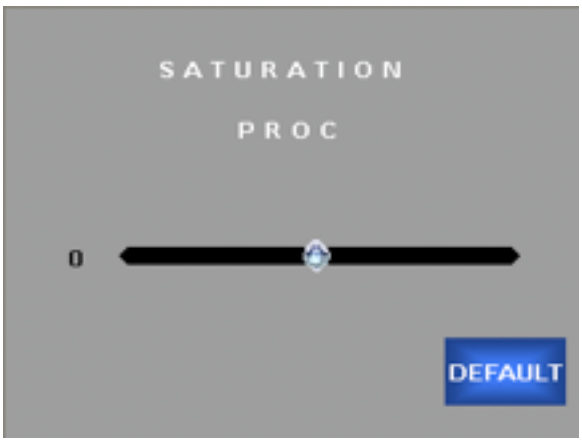
Saturation (Level) Slider

Adjusts the Saturation Level for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -6.0dB to +6.0dB.
  - The default setting is 0dB.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Saturation is defined as the ratio between luminance level and chrominance amplitude.



Navigation:
Main Menu > Video > Proc > Sat

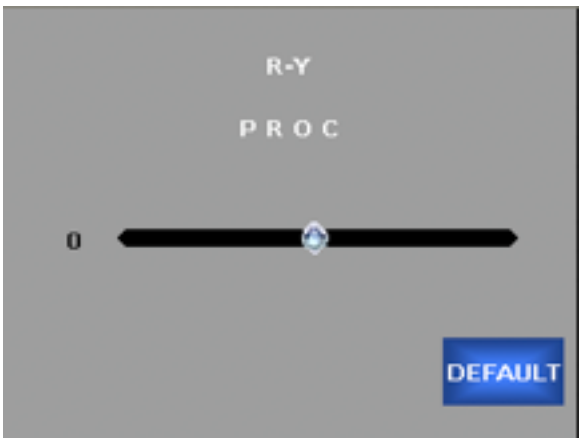
R-Y (Level) Slider

Adjusts the R-Y Level for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -200mV to +200mV.
  - The default setting is 0mV.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: R-Y is defined as the primary Red channel minus luminance. Often referred to as a color difference channel. It is one of the three channels that make up a component signal.



Navigation:
Main Menu > Video > Proc > R-Y

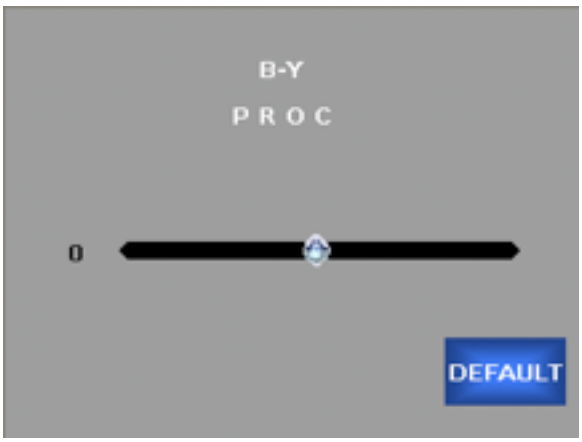
B-Y (Level) Slider

Adjusts the B-Y Level for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -200mV to +200mV.
  - The default setting is 0mV.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: B-Y is defined as the primary Blue channel minus luminance. Often referred to as a color difference channel. It is one of the three channels that make up a component signal.



Navigation:
Main Menu > Video > Proc > B-Y

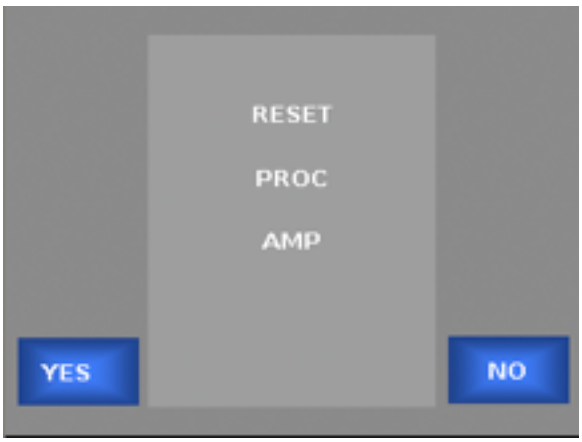
Reset (Proc Amp) Menu

Resets all PROC AMP levels to their default values.

- **YES** – Will reset all Proc amp levels (video gain, black level, hue, saturation, R-Y level, and B-Y level) back to their default values.
- **NO** – Leaves all Proc amp settings at their current values.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Proc Amp Function	Default Value
Video Gain	0dB
Black Level	0mV
Hue	0 degrees
Saturation	0dB
R-Y Level	0mV
B-Y Level	0mV



Navigation:
Main Menu > Video > Proc > Reset

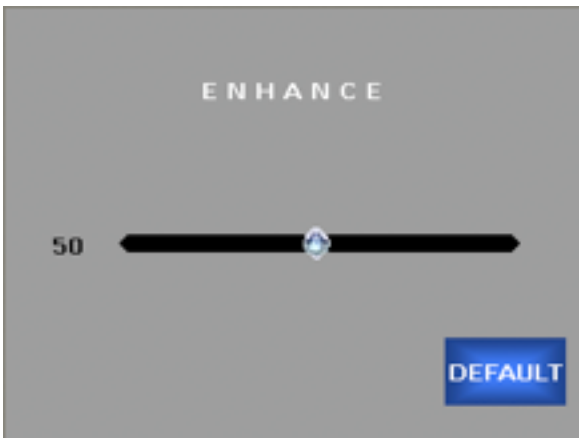
Enhance Slider

Adjusts the Detail Enhancement setting for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 100.
  - The default setting is 63.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Detail Enhance is based on a traditional film compositing technique called "Unsharp Masking." This edge-sharpening filter allows for both positive and negative aperture correction.



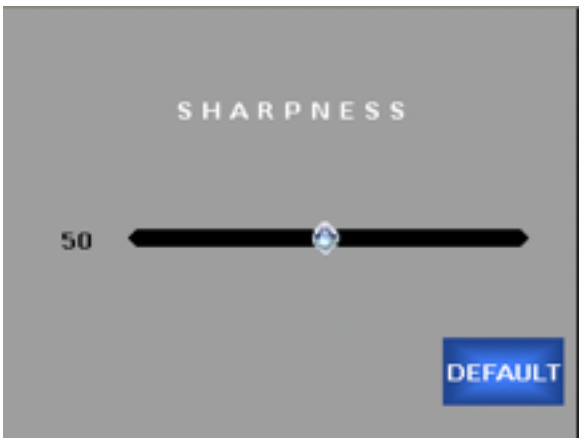
Navigation:
Main Menu > Video > Enh

Sharpness Slider

Adjusts the Sharpness setting for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 100.
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Video > Sharp

Aspect Ratio Menu

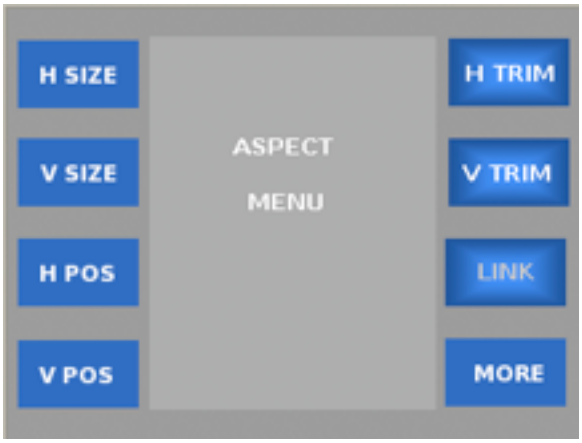
The Aspect (Ratio) menu provides access to the following functions:

- **H SIZE** – Adjusts the Horizontal Size of the image.
- **V SIZE** – Adjusts the Vertical Size of the image.
- **H POS** – Adjusts the Horizontal Position of the image relative to the display window.
- **V POS** – Adjusts the Horizontal Position of the image relative to the display window.
- **H TRIM** – Adjusts the Horizontal Trim for the image.
- **V TRIM** – Adjusts the Vertical Trim for the image.
- **LINK** – Links the H & V size control together.
- **More** – Takes the user to the second page of Aspect menus

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

- **SD FORMAT** – Selects the output aspect ratio format for standard definition (SD) aspect ratio conversions.
- **ACTIVE FILL** - Allows the user to enable the Active Fill Information mode to fill the blanking region in an up-conversion with a live video feed.
- **FILL** - Allows the user to adjust the color of the fill used in aspect ratio conversions such as pillar box or letterbox.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



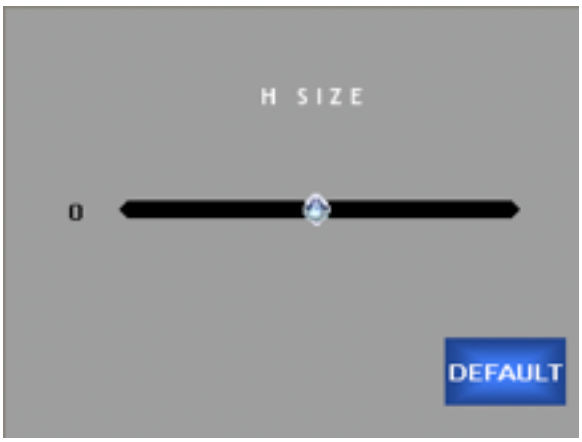
Navigation:
Main Menu > Video > Aspect

H Size Slider

Adjusts the Horizontal Size of the image for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -33 to +200 percent
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



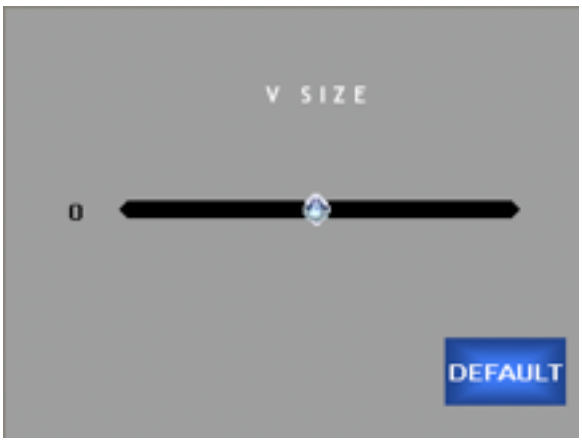
Navigation:
Main Menu > Video > Aspect > H Size

V Size Slider

Adjusts the Vertical Size of the image for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -33 to +200 percent
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



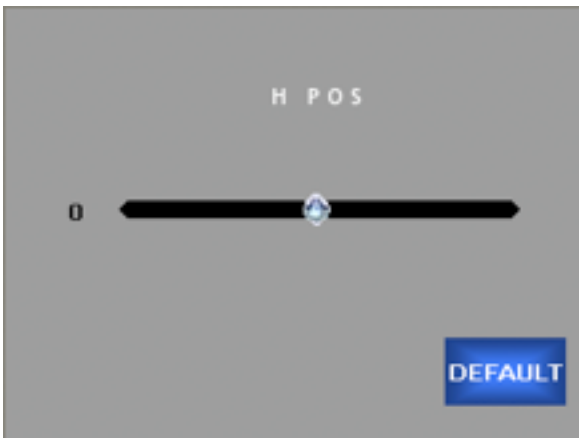
Navigation:
Main Menu > Video > Aspect > V Size

H POS (Position) Slider

Adjusts the Horizontal Position of the image for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is dependent on the current image size
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



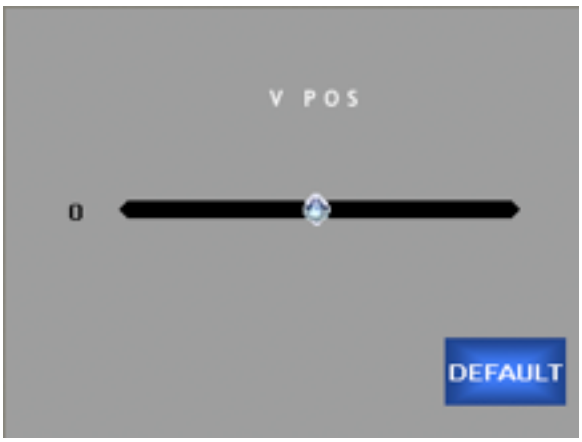
Navigation:
Main Menu > Video > Aspect > H Pos

V POS (Position) Slider

Adjusts the Vertical Position of the image for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is dependent on the current image size
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Video > Aspect > V Pos

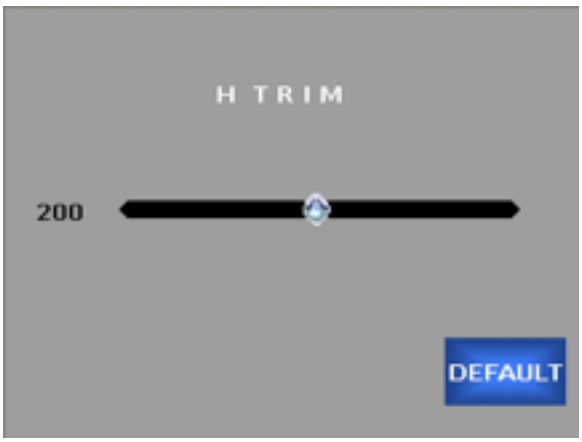
H Trim Slider

Adjusts the Horizontal Trim of the image for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 200 pixels for standard definition formats and 0 to 400 pixels for high definition formats.
  - The default setting is 0 pixels for both SD & HD.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The H Trim function crops the left and right sides of the image and pads it with black or the color chosen by the Fill function, if enabled.



Navigation:
Main Menu > Video > Aspect > H Trim

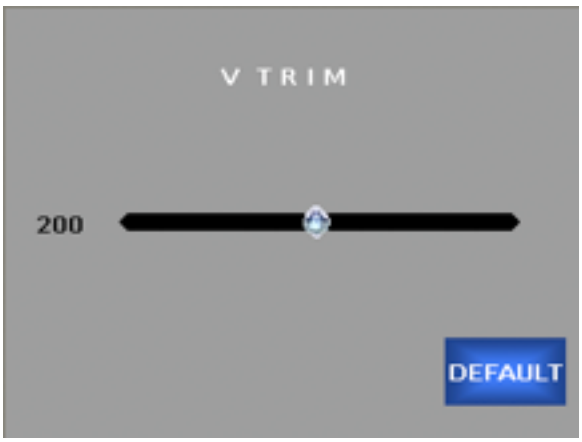
V Trim Slider

Adjusts the Vertical Trim of the image for the selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 200 lines for standard definition formats and 0 to 400 lines for high definition formats.
  - The default setting is 0 lines for both SD & HD.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The V Trim function crops the top and bottom of the image and pads it with black or the color chosen by the Fill function, if enabled.



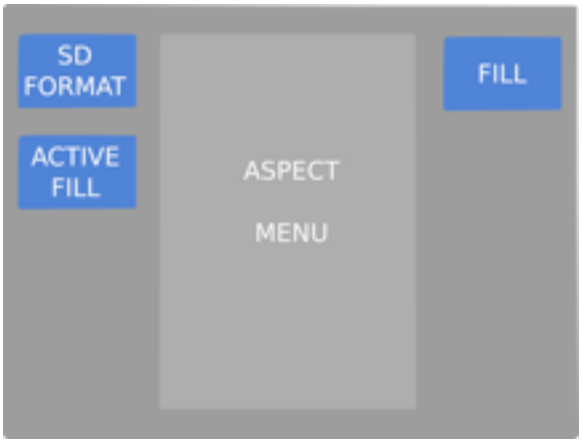
Navigation:
Main Menu > Video > Aspect > V Trim

Aspect Ratio Menu - Page 2

The Aspect Ratio (More) menu provides access to the following functions:

- **SD FORMAT** – Selects the output aspect ratio format for standard definition (SD) aspect ratio conversions.
- **ACTIVE FILL** - Allows the user to enable the Active Fill Information mode to fill the blanking region in an up-conversion with a live video feed.
- **FILL** - Allows the user to adjust the color of the fill used in aspect ratio conversions such as pillar box or letterbox.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Video > Aspect > More

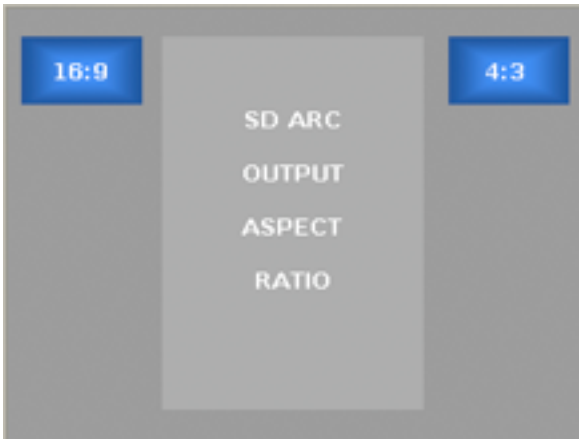
SD Format Menu

Selects the output aspect ratio format for standard definition (SD) aspect ratio conversions.

- 16:9 - Sets the output aspect ratio to 16:9.
- 4:3 - Sets the output aspect ratio to 4:3.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Setting this control will affect the results of the aspect ratio conversion performed using the Common Top & Bottom, Common Sides, and Anamorphic buttons when the Input and Output formats are both standard definition.



Navigation:
Main Menu > Video > Aspect > More > SD Format

Active Fill Menu

Enables the Active Fill Information mode to fill the blanking region in an up-conversion with a live video feed.

- **OFF** - Selecting OFF will turn off the Active Fill Information feature and return the system to it's normal mode of operation.
- **ACTIVE FILL**- Enables the Active Fill Information mode
- **GRAPHIC FILL** - Not available / Future expansion
- **CHROMA FILL** - Not available / Future expansion
- **TRIM** - Takes the user to the Trim menu
- **SHIFT** - Takes the user to the Shift menu

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: This feature utilizes the channel 2 input of the VC100 for the Active Fill input.

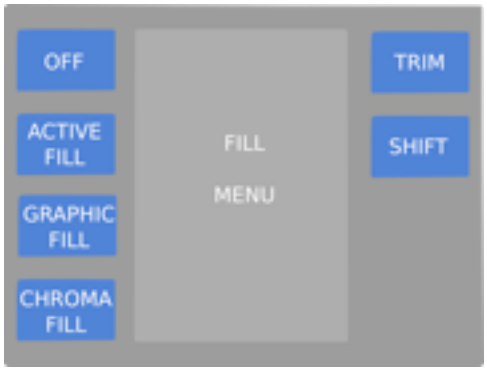
Enabling the Active Fill Information mode will automatically configure the system as follows:
- Turn on active fill
- Auto-detect SDI-2's input and set both SDI-1 and 2's output to this format
- Lock out SDI-2 control

Connections
- SDI-1: The main video feed to be up-converted
- SDI-2: The active fill information video feed.
- SDI-2: The channel 2 output will have the combined main/active fill video.

The Active Fill Information feature is available in the following format conversions

Input	Output	Input	Output
480i59.94	480i59.94	576i50	576i50
	720p59.94		720p50
	1080i59.94		1080i50

Note: Both channels must be referenced either to input or to the same external reference.



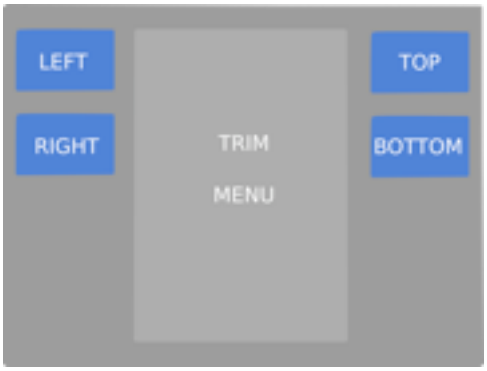
Navigation:
Main Menu > Video > Aspect > More > Active Fill

Trim Menu

- **LEFT** - Trims the Left edge of the Active Fill region
- **RIGHT** - Trims the Right edge of the Active Fill region
- **TOP** - Trims the Top edge of the Active Fill region
- **BOTTOM** - Trims the Bottom edge of the Active Fill region

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The Trim values will be restored to the default values when an aspect ratio change is made.



Navigation:
Main Menu > Video > Aspect > More > Active Fill > Trim

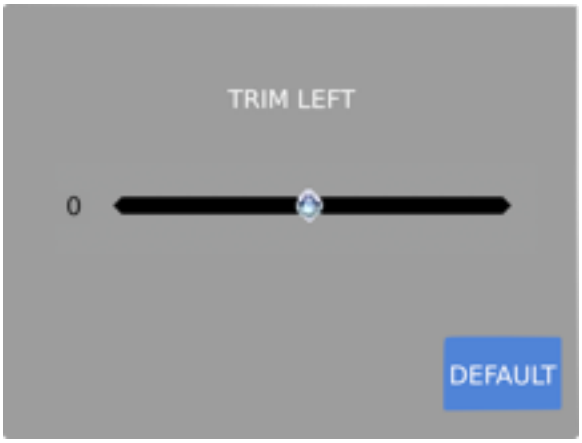
Trim Left Slider

Trims the Left edge of the Active Fill region

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 200 pixels
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The Trim values will be restored to the default values when an aspect ratio change is made.



Navigation:
Main Menu > Video > Aspect > More > Active Fill > Trim > Left

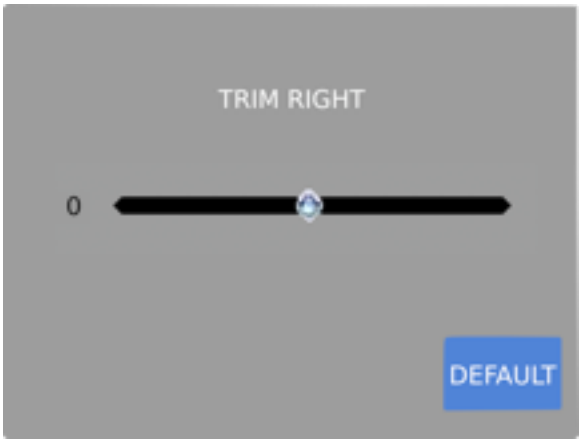
Trim Right Slider

Trims the Right edge of the Active Fill region

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 200 pixels
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The Trim values will be restored to the default values when an aspect ratio change is made



Navigation:
Main Menu > Video > Aspect > More > Active Fill > Trim > Right

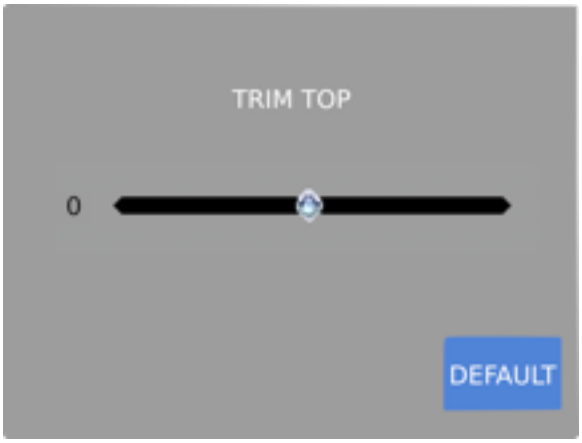
Trim Top Slider

Trims the Top edge of the Active Fill region

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 200 Lines
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The Trim values will be restored to the default values when an aspect ratio change is made



Navigation:
Main Menu > Video > Aspect > More > Active Fill > Trim > Top

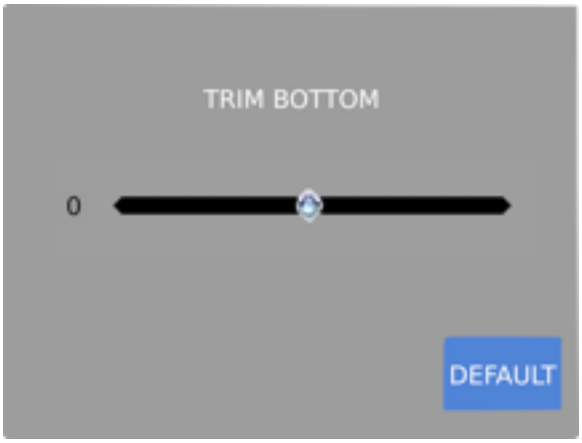
Trim Bottom Slider

Trims the Bottom edge of the Active Fill region

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 200 Lines
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The Trim values will be restored to the default values when an aspect ratio change is made



Navigation:
Main Menu > Video > Aspect > More > Active Fill > Trim > Bottom

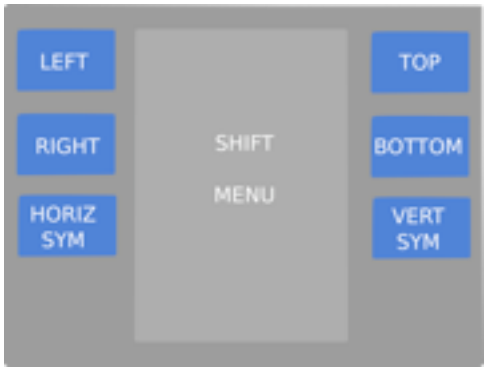
Shift Menu

- LEFT: Moves the main video feed to the left edge of the image
- RIGHT: Moves the main video feed to the right edge of the image
- TOP: Moves the main video feed to the top edge of the image
- BOTTOM: Moves the main video feed to the bottom edge of the image
- HORIZ SYM: Centers the main video feed horizontally
- VERT SYM: Centers the main video feed vertically

➡ Press the ***Back*** button to move to the previous menu
➡ Press the ***Home*** button to go back to the Main menu

Note: The Shift settings do *not* reset when the aspect ratio is changed

Note: Shift left/right does a true shift of the main video feed while Shift top/bottom does a pan of the main video feed.



Navigation:
Main Menu > Video > Aspect > More > Active Fill > Shift

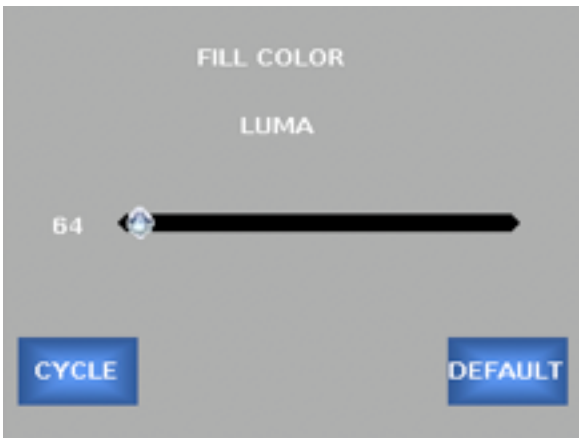
Fill Color Sliders (Luma)

Adjusts the Luminance Fill color.

Note: The Fill area is any area between the image and the edge of the raster. For example in an up-conversion, with a common top & bottom aspect ratio you end up with a 4:3 image in a 16:9 window. The bars on either side of the image is the Fill area.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 960
  - The default setting is 0.

➡ Press **Cycle** to go to the Cr slider menu
➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Video > Aspect > More > Fill

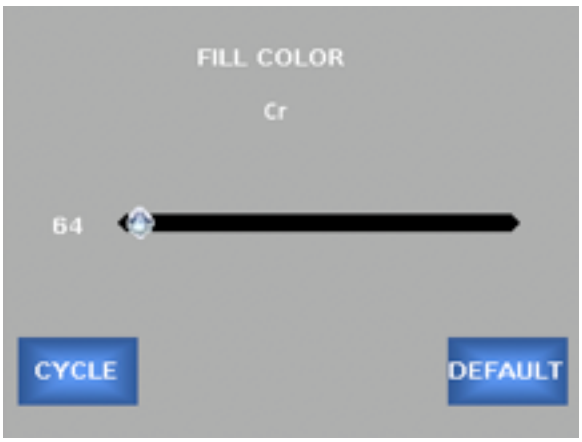
Fill Color Sliders (Cr)

Adjusts the Cr Fill color.

Note: The Fill area is any area between the image and the edge of the raster. For example in an up-conversion, with a common top & bottom aspect ratio you end up with a 4:3 image in a 16:9 window. The bars on either side of the image is the Fill area.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 960
  - The default setting is 0.

➡ Press **Cycle** to go to the Cb slider menu
➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Video > Aspect > More > Fill > Cycle

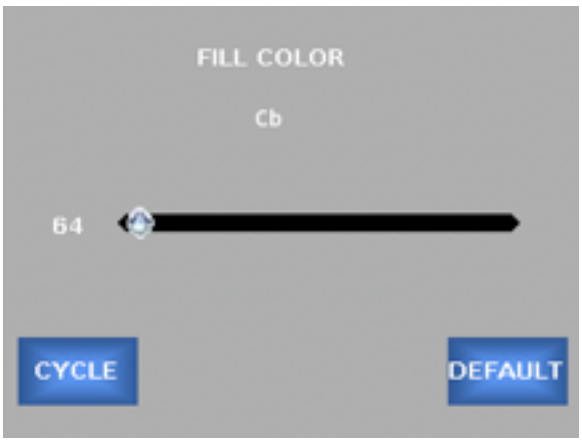
Fill Color Sliders (Cb)

Adjusts the Cb Fill color.

Note: The Fill area is any area between the image and the edge of the raster. For example in an up-conversion, with a common top & bottom aspect ratio you end up with a 4:3 image in a 16:9 window. The bars on either side of the image is the Fill area.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 960
  - The default setting is 0.

➡ Press **Cycle** to go to the Luma slider menu
➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Video > Aspect > More > Fill > Cycle

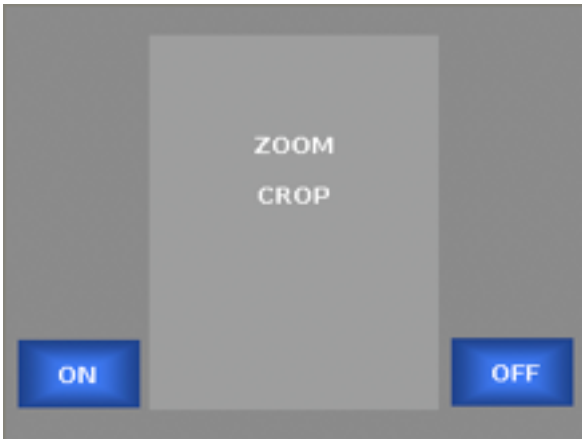
Zoom/Crop Menu

This mode will zoom the image by 3-pixels/3-lines and then crop it by 3-pixels/3-lines.

- **ON** – Will zoom the image by 3-pixels/3-lines and then crop it by 3-pixels/3-lines.
- **OFF** – Leaves the image in the original format.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The Zoom/Crop function is useful for eliminating edge effect artifacts caused by processing the edges of the image.



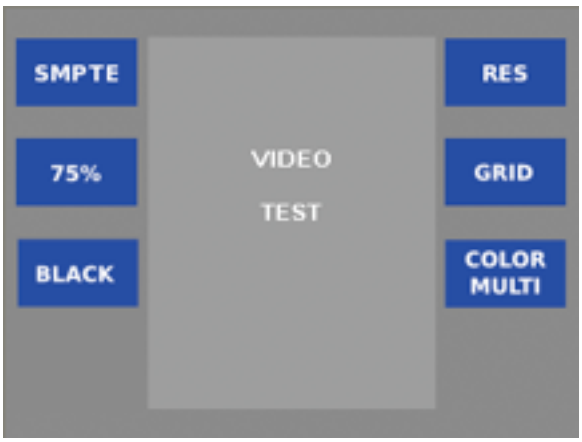
Navigation:
Main Menu > Video > Z/C

Test (Generator) Menu

The Video Test Signal Generator menu provides access to the following functions:

- **SMPTE** – Selects the SMPTE (Color Bar) Test Pattern.
- **75%** – Selects the 75% Color Bars Test Pattern.
- **Black** – Selects the Black Test Pattern.
- **RES** – Selects the Multiburst (RES) Test Pattern..
- **GRID** – Selects the Grid Test Pattern.
- **COLOR MULTI** - Select the Color Multiburst Test Pattern.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Video > Test

SMPTE (Color Bars) Menu

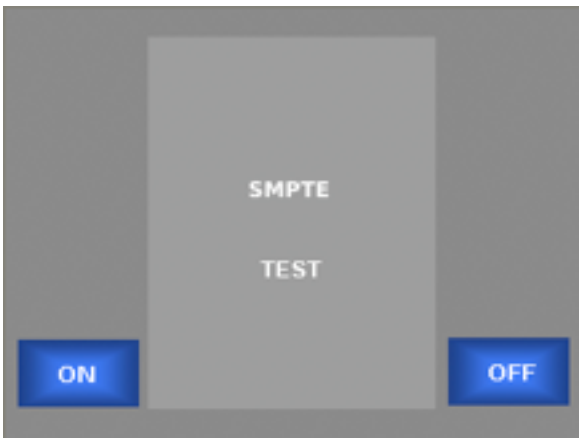
Selects the SMPTE (Color Bars) Test Pattern as the output of the currently selected video processing channel.

- **ON** – Turns ON the SMPTE Test Pattern on the output of the selected video processing channel.
- **OFF** – Turns OFF the SMPTE Test Pattern on the output of the selected video processing channel.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: If a test pattern has been turned on, and you go Back to the Video Test menu, the other test patterns will not be available (i.e, they will be grayed out). To select a new test pattern, you must first turn off the current test pattern and the select the new test pattern.

Note: The other test patterns (75%, Black, Res, Grid, and Color Multi) are selected in the same manner.



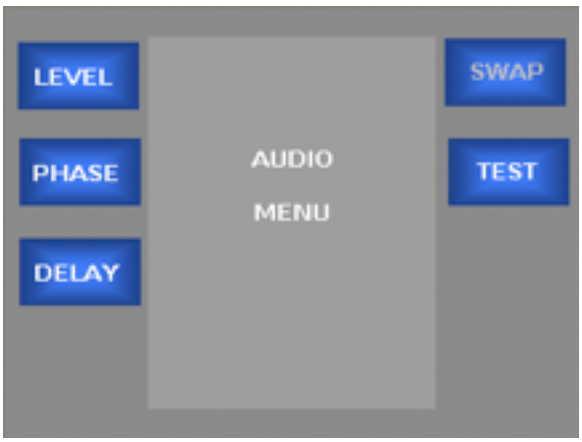
Navigation:
Main Menu > Video > Test > SMPTE

Audio Menu

The Audio menu provides access to the following functions:

- **LEVEL** – Takes the user to the Audio Level adjustment menu.
- **PHASE** – Takes the user to the Audio Phase adjustment menu.
- **DELAY** – Takes the user to the Audio Delay adjustment menu.
- **SWAP** – Not available / Future Expansion
- **TEST** – Takes the user to the Audio Test Tone menu.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Audio

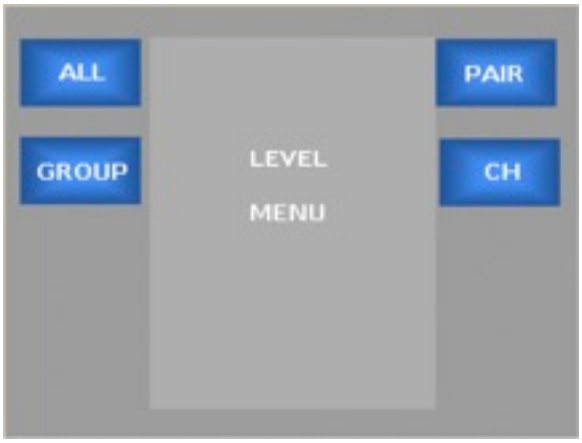
Level (Audio) Menu

Allows the user to adjust the audio Level for the audio channels in the currently selected video processing channel.

- **ALL** - Adjusts the audio Level on all of the audio channels in the currently selected video processing channel.
  - Selecting All will take you to the audio Level adjustment slider.
  - Refer to page 86 for details on adjusting the audio Level.
- **GROUP** - Adjusts the audio Level on the selected group of audio channels in the currently selected video processing channel.
- **PAIR** - Adjusts the audio Level on the selected pair of audio channels in the currently selected video processing channel.
- **CH** - Adjusts the audio Level on the selected audio channel in the currently selected video processing channel.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: the Channel Allocation setting in the System Setup Menu determines the number of audio channels available to each video processing channel. Refer to page 150 for further details.



Navigation:
Main Menu > Audio > Level

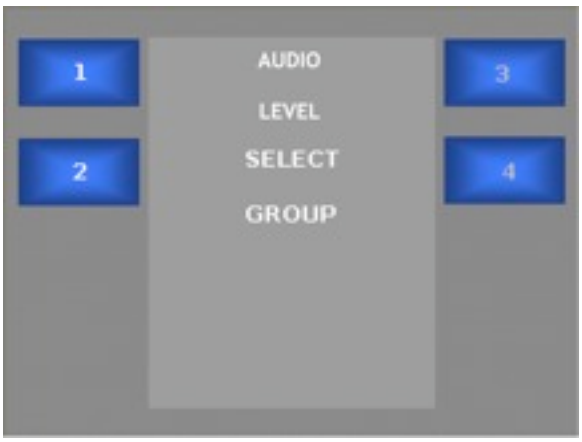
Group (Audio Level) Menu

Selects the audio Group that will be affected by the audio Level adjustment.

- **1** - Adjusts the audio Level for the channels in Group 1 (channels 1 – 4).
- **2** - Adjusts the audio Level for the channels in Group 2 (channels 5 – 8).
- **3** - Adjusts the audio Level for the channels in Group 3 (channels 9 – 12).
- **4** - Adjusts the audio Level for the channels in Group 4 (channels 13 – 16).
  - Selecting one of the Groups (above) will take you to the audio Level adjustment slider.
  - Refer to page 86 for details on adjusting the audio Level.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The audio groups available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to page 150 for further details.



Navigation:
Main Menu > Audio > Level > Group

Pair (Audio Level) Menu

Selects the audio Pair that will be affected by the audio Level adjustment.

- **1/2** – Adjusts the audio Level for the channels in Pair 1/2 (channels 1 & 2).
- **3/4** – Adjusts the audio Level for the channels in Pair 3/4 (channels 3 & 4).
- **5/6** – Adjusts the audio Level for the channels in Pair 5/6 (channels 5 & 6).
- **7/8** – Adjusts the audio Level for the channels in Pair 7/8 (channels 7 & 8).
- **9/10** – Adjusts the audio Level for the channels in Pair 9/10 (channels 9 & 10).
- **11/12** – Adjusts the audio Level for the channels in Pair 11/12 (channels 11 & 12).
- **13/14** – Adjusts the audio Level for the channels in Pair 13/14(channels 13 & 14).
- **15/16** – Adjusts the audio Level for the channels in Pair 15/16 (channels 15 & 16).
  - Selecting one of the Pairs (above) will take you to the audio Level adjustment slider.
  - Refer to page 86 for details on adjusting the audio Level.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The audio pairs available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to page 150 for further details.

Navigation:
Main Menu > Audio > Level > Pair

Channel (Audio Level) Menu

Channel (Ch 1 - 7) - Selects the audio channel that will be affected by the audio Level adjustment.

- **1** - Adjusts the audio level for channel 1.
- **2** - Adjusts the audio level for channel 2.
- **3** - Adjusts the audio level for channel 3.
- **4** - Adjusts the audio level for channel 4.
- **5** - Adjusts the audio level for channel 5.
- **6** - Adjusts the audio level for channel 6.
- **7** - Adjusts the audio level for channel 7.
- **MORE** – Takes the user to the next channel selection menu (Ch 8-14).
  - Selecting one of the channels (above) will take you to the audio Level adjustment slider.
  - Refer to page 86 for details on adjusting the audio Level.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Channel (Ch 8 - 14) - Selects the audio channel that will be affected by the audio Level adjustment.

- **8** - Adjusts the audio level for channel 8.
- **9** - Adjusts the audio level for channel 9.
- **10** - Adjusts the audio level for channel 10.
- **11** - Adjusts the audio level for channel 11.
- **12** - Adjusts the audio level for channel 12.
- **13** - Adjusts the audio level for channel 13.
- **14** - Adjusts the audio level for channel 14.
- **MORE** – Takes the user to the next channel selection menu (Ch 15-16).
  - Selecting one of the channels (above) will take you to the audio Level adjustment slider.
  - Refer to page 86 for details on adjusting the audio Level.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Channel (CH 15 - 16) - Selects the audio channel that will be affected by the audio Level adjustment.

- **15** - Adjusts the audio level for channel 15.
- **16** - Adjusts the audio level for channel 16.
  - Selecting one of the channels (above) will take you to the audio Level adjustment slider.
  - Refer to page 86 for details on adjusting the audio Level.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The audio channels available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to page 150 for further details.

Navigation:
Main Menu > Audio > Level > Ch

Level (Audio) Slider

Adjusts the audio Level of the selected audio Group, Pair, Channel, or All in the currently selected video processing channel.

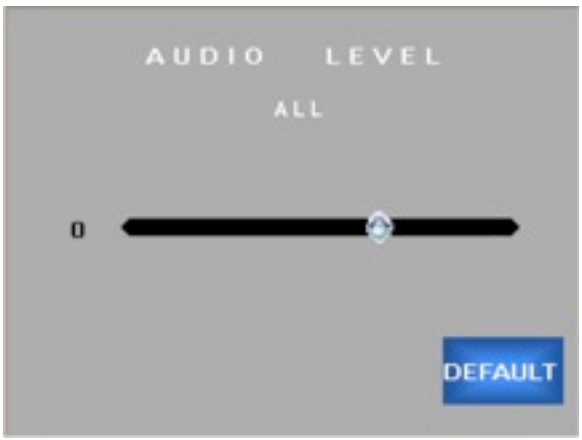
- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -32dB to +16dB in 1dB steps.
  - The default setting is 0dB.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The audio channels available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to page 150 for further details.

Note: The audio level slider will indicate whether you are adjusting the audio level for All channels, a group of channels, a pair of channels, or an individual channel.

Navigation:
Main Menu > Audio > Level > All
or
Main Menu > Audio > Level > Group > 1
or
Main Menu > Audio > Level > Pair > 1/2
or
Main Menu > Audio > Level > Ch > 1



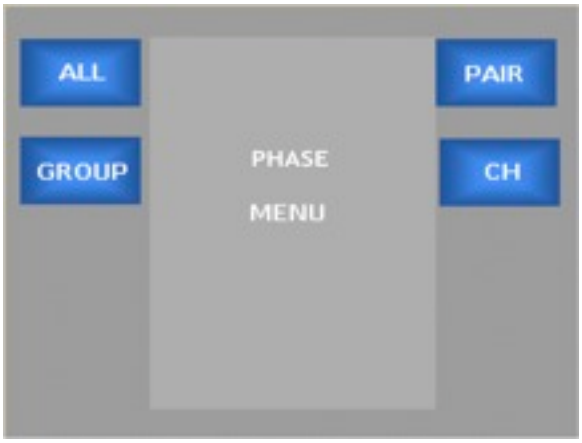
Phase (Audio) Menu

Allows the user to adjust the audio Phase for the audio channels in the currently selected video processing channel.

- **ALL** - Adjusts the audio Phase on all of the audio channels in the currently selected video processing channel.
  - Selecting All will take you to the audio Phase adjustment menu.
  - Refer to page 91 for details on adjusting the audio Phase.
- **GROUP** - Adjusts the audio Phase on the selected group of audio channels in the currently selected video processing channel.
- **PAIR** - Adjusts the audio Phase on the selected pair of audio channels in the currently selected video processing channel.
- **CH** - Adjusts the audio Phase on the selected audio channel in the currently selected video processing channel.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: the Channel Allocation setting in the System Setup Menu determines the number of audio channels available to each video processing channel. Refer to page 150 for further details.



Navigation:
Main Menu > Audio > Phase

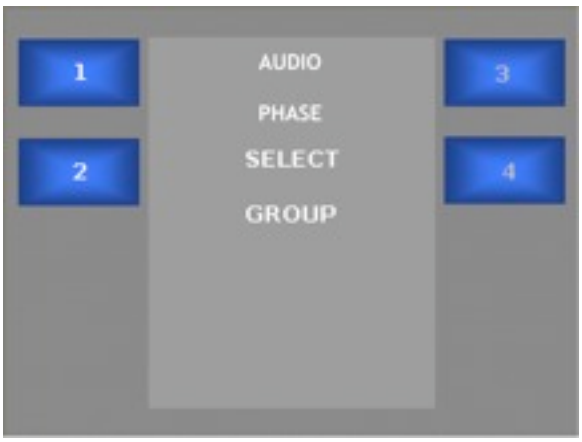
Group (Audio Phase) Menu

Selects the audio Group that will be affected by the audio Phase adjustment.

- **1** - Adjusts the audio phase for the channels in Group 1 (channels 1 – 4).
- **2** - Adjusts the audio phase for the channels in Group 2 (channels 5 – 8).
- **3** - Adjusts the audio phase for the channels in Group 3 (channels 9 – 12).
- **4** - Adjusts the audio phase for the channels in Group 4 (channels 13 – 16).
  - Selecting one of the Groups (above) will take you to the audio Phase adjustment menu.
  - Refer to page 91 for details on adjusting the audio Phase.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The audio groups available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to page 150 for further details.



Navigation:
Main Menu > Audio > Phase > Group

Pair (Audio Phase) Menu

Selects the audio Pair that will be affected by the audio Phase adjustment.

- **1/2** – Adjusts the audio phase for the channels in Pair 1/2 (channels 1 & 2).
- **3/4** – Adjusts the audio phase for the channels in Pair 3/4 (channels 3 & 4).
- **5/6** – Adjusts the audio phase for the channels in Pair 5/6 (channels 5 & 6).
- **7/8** – Adjusts the audio phase for the channels in Pair 7/8 (channels 7 & 8).
- **9/10** – Adjusts the audio phase for the channels in Pair 9/10 (channels 9 & 10).
- **11/12** – Adjusts the audio phase for the channels in Pair 11/12 (channels 11 & 12).
- **13/14** – Adjusts the audio phase for the channels in Pair 13/14(channels 13 & 14).
- **15/16** – Adjusts the audio phase for the channels in Pair 15/16 (channels 15 & 16).
  - Selecting one of the Pairs (above) will take you to the audio Phase adjustment menu.
  - Refer to page 91 for details on adjusting the audio Phase.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The audio pairs available in the currently selected video processing channel is determined by the Audio Allocation setting in the System Setup Menu. Refer to page 150 for further details.

Navigation:
Main Menu > Audio > Phase > Pair

Channels (Audio Phase) Menu

Channel (Ch 1 - 7) - Selects the audio channel that will be affected by the audio Phase adjustment.

- **1** – Adjusts the audio phase for channel 1.
- **2** – Adjusts the audio phase for channel 2.
- **3** – Adjusts the audio phase for channel 3.
- **4** – Adjusts the audio phase for channel 4.
- **5** – Adjusts the audio phase for channel 5.
- **6** – Adjusts the audio phase for channel 6.
- **7** – Adjusts the audio phase for channel 7.
- **MORE** – Takes the user to the next channel selection menu (Ch 8-14).
  - Selecting one of the Channels (above) will take you to the audio Phase adjustment menu.
  - Refer to page 91 for details on adjusting the audio Phase.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Channel (Ch 8 - 14) - Selects the audio channel that will be affected by the audio Phase adjustment.

- **8** – Adjusts the audio phase for channel 8.
- **9** – Adjusts the audio phase for channel 9.
- **10** – Adjusts the audio phase for channel 10.
- **11** – Adjusts the audio phase for channel 11.
- **12** – Adjusts the audio phase for channel 12.
- **13** – Adjusts the audio phase for channel 13.
- **14** – Adjusts the audio phase for channel 14.
- **MORE** – Takes the user to the next channel selection menu (Ch 15-16).
  - Selecting one of the Channels (above) will take you to the audio Phase adjustment menu.
  - Refer to page 91 for details on adjusting the audio Phase.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Channel (Ch 15 - 16) - Selects the audio channel that will be affected by the audio Phase adjustment.

- **15** – Adjusts the audio phase for channel 15.
- **16** – Adjusts the audio phase for channel 16.
  - Selecting one of the Channels (above) will take you to the audio Phase adjustment menu.
  - Refer to page 91 for details on adjusting the audio Phase.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: the Audio Allocation setting in the System Setup menu determines the number of audio groups available in the currently selected video processing channel. Refer to page 150 for further details.

Navigation:
Main Menu > Audio > Phase > Ch

Phase (Audio) Menu

Adjusts the audio Phase of the selected audio Group, Pair, Channel, or All in the currently selected video processing channel.

- **0 DEG** – Sets the audio phase to 0 degrees of the selected audio channel in the currently selected video processing channel.
- **180 DEG** – Sets the audio phase to 180 degrees of the selected audio channel in the currently selected video processing channel.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: the Audio Allocation setting in the System Setup menu determines the number of audio groups available in the currently selected video processing channel. Refer to page 150 for further details.

Note: The audio phase menu will indicate whether you are adjusting the audio phase for All channels, a group of channels, a pair of channels, or an individual channel.

Navigation:
Main Menu > Audio > Phase > All
or
Main Menu > Audio > Phase > Group > 1
or
Main Menu > Audio > Phase > Pair > 1/2
or
Main Menu > Audio > Phase > Ch > 1

Delay (Audio) Menu

The audio Delay menu allows the user to configure the system for automatic audio delay of manual adjustment.

- **AUTO** – Not functional / Future expansion.
- **MANUAL** – Selects the Manual delay mode.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

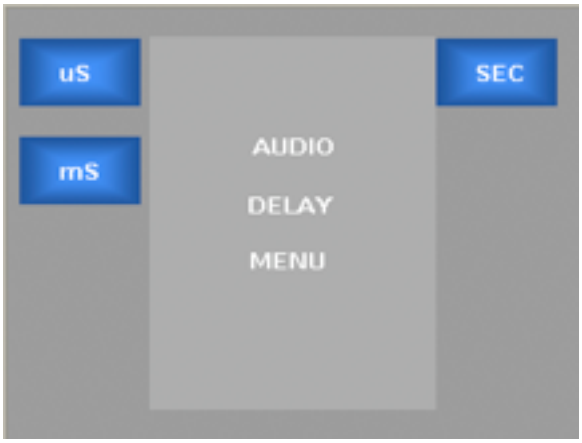
Navigation:
Main Menu > Audio > Delay

Manual (Audio Delay) Menu

Allows the audio Delay to be manually adjusted for the currently selected video processing channel. This will affect all channels currently assigned.

- **Audio Delay (uS)** – Takes the user to the microsecond adjustment slider.
- **Audio Delay (mS)** – Takes the user to the millisecond adjustment slider.
- **Audio Delay (Sec)** – Takes the user to the second adjustment slider.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Audio > Delay > Manual

Microsecond (Audio Delay) Slider

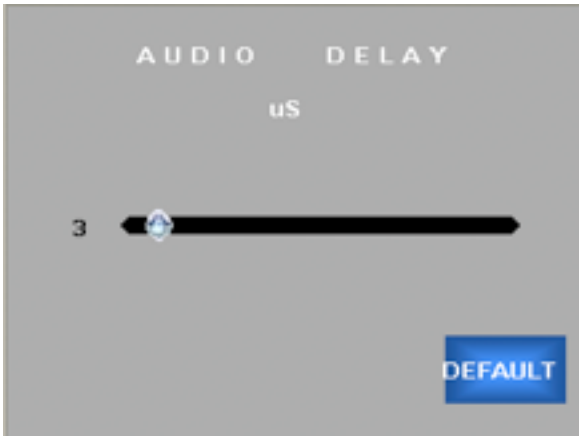
Adjusts the audio delay, in Microsecond increments, of the audio channels in the currently selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 49uS.
  - The default setting is 3uS.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: When adjusting the audio delay, the total delay will be a cumulative effect of all three audio delay slider, microseconds, milliseconds, and seconds.

Note: The sub-menu for Audio Delay indicates that the units of measurement are displayed in microseconds (uSec). The units are actually related in "audio samples." An audio sample is approximately 20 uSec.



Navigation:
Main Menu > Audio > Delay > Manual > uS

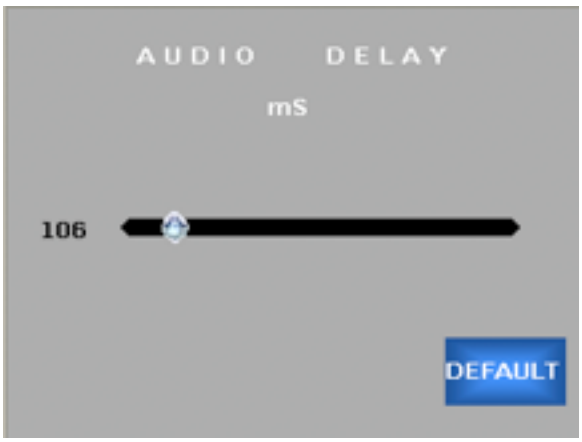
Millisecond (Audio Delay) Slider

Adjusts the audio delay, in Millisecond increments, of the audio channels in the currently selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 999mS.
  - The default setting is 106mS.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: When adjusting the audio delay, the total delay will be a cumulative effect of all three audio delay slider, microseconds, milliseconds, and seconds.



Navigation:
Main Menu > Audio > Delay > Manual > mS

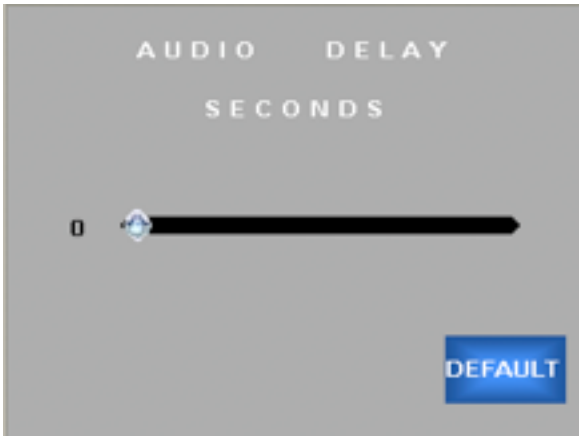
Second (Audio Delay) Slider

Adjusts the audio delay, in one Second increments, of the audio channels in the currently selected video processing channel.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 4 seconds.
  - The default setting is 0 seconds.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: When adjusting the audio delay, the total delay will be a cumulative effect of all three audio delay slider, microseconds, milliseconds, and seconds.



Navigation:
Main Menu > Audio > Delay > Manual > Sec

Test (Audio) Menu

The audio Test menu provides access to the following functions:

- **750Hz** – Enables a 750Hz audio tone for the selected audio channel(s).
- **1.5KHz** - Enables a 1.5KHz audio tone for the selected audio channel(s).
- **3KHz** - Enables a 3KHz audio tone for the selected audio channel(s).
- **6KH**z - Enables a 6KHz audio tone for the selected audio channel(s).
- **Mute** – Mutes the selected audio channel(s).

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Navigation:
Main Menu > Audio > Test

Select (Audio Test) Menu

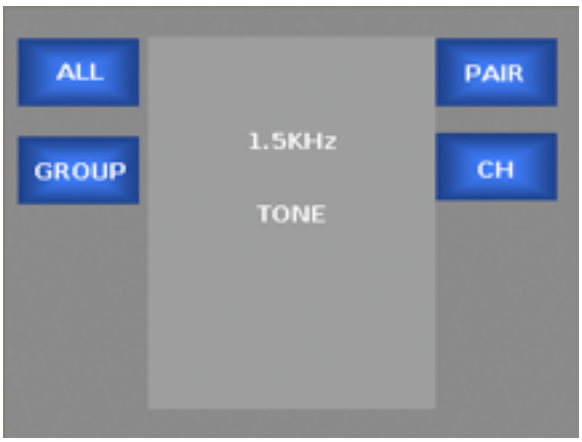
Allows the user to enable the 750Hz audio test tone on a group, pair, channel or all, basis in the currently selected video processing channel.

- **ALL** - Enable/disables the audio test tone on all of the audio channels in the currently selected video processing channel.
  - Selecting All will take you to the audio test tone enable menu.
  - Refer to page 101 for details on enabling the selected audio test tone
- **GROUP** - Enable/disables the audio test tone on the selected group of audio channels in the currently selected video processing channel.
- **PAIR** - Enable/disables the audio test tone on the selected pair of audio channels in the currently selected video processing channel.
- **CH** - Enable/disables the audio test tone on the selected audio channel in the currently selected video processing channel.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The process is the same for selecting the 1.5KHz, 3KHz, or 6KHz test tones and for Mute.

Note: the Audio Allocation setting in the System Setup menu determines the number of audio channels available in the currently selected video processing channel. Refer to page 150 for further details.



Navigation:
Main Menu > Audio > Test > 1.5KHz

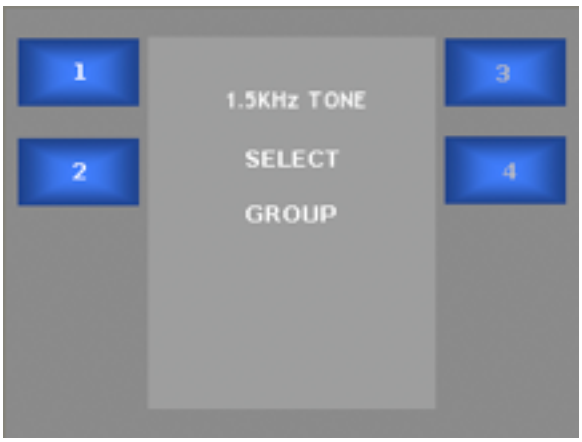
Group (Audio Test) Menu

Selects the audio Group that the selected audio test tone will be enabled on

- **1** – Enables the selected audio test tone for the channels in Group 1 (channels 1 – 4).
- **2** – Enables the selected audio test tone for the channels in Group 2 (channels 5 – 8).
- **3** – Enables the selected audio test tone for the channels in Group 3 (channels 9 – 12).
- **4** – Enables the selected audio test tone for the channels in Group 4 (channels 13 – 16).
  - Selecting the of the Groups will take you to the audio test tone enable menu.
  - Refer to page 101 for details on enabling the selected audio test tone.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: the Audio Allocation setting in the System Setup menu determines the number of audio groups available in the currently selected video processing channel. Refer to page 150 for further details.



Navigation:
Main Menu > Audio > Test > 1.5KHz - Group

Pair (Audio Test) Menu

Selects the audio Pair that the selected audio test tone will be enabled on

- **1/2** – Enables the selected audio test tone for the channels in Pair 1/2 (channels 1 & 2).
- **3/4** – Enables the selected audio test tone for the channels in Pair 3/4 (channels 3 & 4).
- **5/6** – Enables the selected audio test tone for the channels in Pair 5/6 (channels 5 & 6).
- **7/8** – Enables the selected audio test tone for the channels in Pair 7/8 (channels 7 & 8).
- **9/10** – Enables the selected audio test tone for the channels in Pair 9/10 (channels 9 & 10).
- **11/12** – Enables the selected audio test tone for the channels in Pair 11/12 (channels 11 & 12).
- **13/14** – Enables the selected audio test tone for the channels in Pair 13/14 (channels 13 & 14).
- **15/16** – Enables the selected audio test tone for the channels in Pair 15/16 (channels 15 & 16).
  - Selecting the of the Pairs will take you to the audio test tone enable menu.
  - Refer to page 101 for details on enabling the selected audio test tone.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: the Audio Allocation setting in the System Setup menu determines the number of audio pairs available in the currently selected video processing channel. Refer to page 150 for further details.

Navigation:
Main Menu > Audio > Test > 1.5KHz - Pair

Channels (Audio Test) Menu

Selects the audio Channel (1 - 7) that the selected audio test tone will be enabled on:

- **1** – Enables the selected audio test tone for channel 1.
- **2** – Enables the selected audio test tone for channel 2.
- **3** – Enables the selected audio test tone for channel 3.
- **4** – Enables the selected audio test tone for channel 4.
- **5** – Enables the selected audio test tone for channel 5.
- **6** – Enables the selected audio test tone for channel 6.
- **7** – Enables the selected audio test tone for channel 7.
- **MORE** – Takes the user to the next channel selection menu.
  - Selecting a Channel will take you to the audio test tone enable menu.
  - Refer to page 101 for details on enabling the selected audio test tone.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Selects the audio Channel (8 - 14) that the selected audio test tone will be enabled on:

- **8** – Enables the selected audio test tone for channel 8.
- **9** – Enables the selected audio test tone for channel 9.
- **10** – Enables the selected audio test tone for channel 10.
- **11** – Enables the selected audio test tone for channel 11.
- **12** – Enables the selected audio test tone for channel 12.
- **13** – Enables the selected audio test tone for channel 13.
- **14** – Enables the selected audio test tone for channel 14.
- **MORE** – Takes the user to the next channel selection menu.
  - Selecting a Channel will take you to the audio test tone enable menu.
  - Refer to page 101 for details on enabling the selected audio test tone.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Selects the audio Channel (15 - 16) that the selected audio test tone will be enabled on:

- **15** – Enables the selected audio test tone for channel 15.
- **16** – Enables the selected audio test tone for channel 16.
  - Selecting a Channel will take you to the audio test tone enable menu.
  - Refer to page 101 for details on enabling the selected audio test tone.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: the Audio Allocation setting in the System Setup menu determines the number of audio channels available in the currently selected video processing channel. Refer to page 150 for further details.

Navigation:
Main Menu > Audio > Test > 1.5KHz > Ch

Test (Audio) Enable Menu

Enables the selected audio Test tone for the selected group, pair, channel or all.

- **ON** – Enables the selected audio test tone.
- **OFF** – Disables the selected audio test tone.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: the Audio Allocation setting in the System Setup menu determines the number of audio channels available in the currently selected video processing channel. Refer to page 150 for further details.

Navigation:
Main Menu > Audio > Test > 1.5KHz -> All
or
Main Menu > Audio > Test > 1.5KHz > Group > 1
or
Main Menu > Audio > Test > 1.5KHz > Pair > 1/2
or
Main Menu > Audio > Test > 1.5KHz > Ch > 1

Advanced Menu

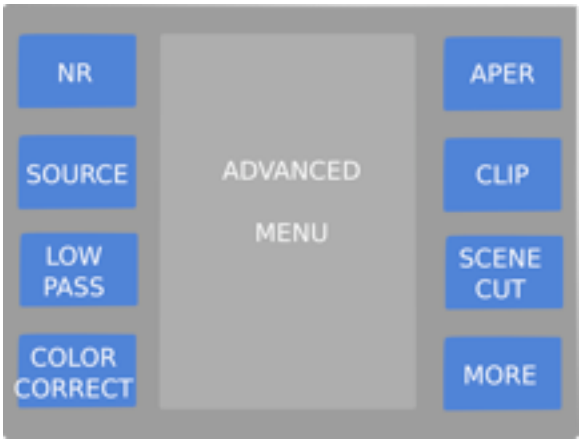
The Advanced menu provides access to the following functions:

- **NR** – Takes the user to the Noise Reduction menu
- **SOURCE** – Takes the user to the Source menu
- **LOW PASS** - Not available / Future Expansion
- **COLOR CORRECT** - Takes the user to the RGB color correction sliders
- **APER** – Adjusts the Aperture filter used in frame-rate conversions
- **CLIP** – Takes the user to the Clip menu
- **SCENE CUT** - Takes the user to the Scene Cut menu
- **MORE** - Takes the user to the second page of Advanced menus

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

- **TVP** - Takes the user to the TVP menu
- **RP177** - Takes the user to the RP177 menu

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



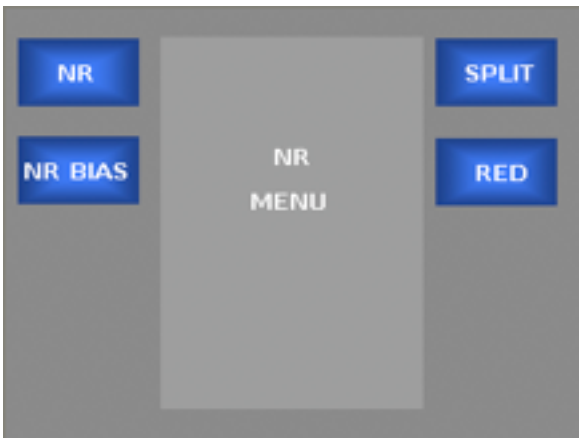
Navigation:
Main Menu > Adv

Noise Reduction Menu

Takes the user to the Noise Reduction menu.

- Press the ***Back*** button to move to the previous menu.
- Press the ***Home*** button to go back to the Main menu.

Note: The Noise Reducer is a motion adaptive temporal recursive filter that works well in removing random and Gaussian noise. Each pixel is labeled as motion, no motion, or noise. Each of these classes of pixels is treated differently in the noise reduction process. For pixels in which there is no motion, low-level Gaussian noise may be reduced via temporal processing by a weighted averaging over successive frames. For pixels labeled as random noise, spatial processing replaces these pixels. Pixels labeled as being "in motion" are retained "as is" to avoid artifacts that may be introduced through temporal processing.



Navigation:
Main Menu > Adv > NR

Noise Reduction Enable Menu

The NR menu enables the Noise Reduction option of the VC100.

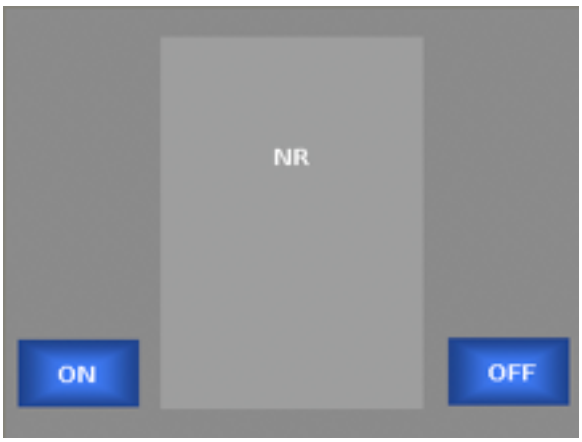
- **ON** – Enables Noise Reduction.
- **OFF** – Disables Noise Reduction.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: At present, noise reduction is not supported in frame-rate conversion applications. See the table below for supported formats:

NR Supported Formats

Input	Output	Input	Output	Input	Output
480i59.94 to	480i59.94 720p59.94 1080i59.94	720p59.94 to	480i59.94 720p59.94 1080i59.94	1080i59.94	480i59.94 720p59.94 1080i59.94
576i50 to	576i50 720p50 1080i50	720p50	576i50 720p50 1080i50	1080i50	480i59.94 720p59.94 1080i59.94
1080sf23.98 to	480i59.94 720p59.94 1080i59.94 1080sf23.98	1080sf24 to	1080sf24	1080sf25 to	576i50 720p50 1080i50 1080sf25



Navigation:
Main Menu > Adv > NR > NR

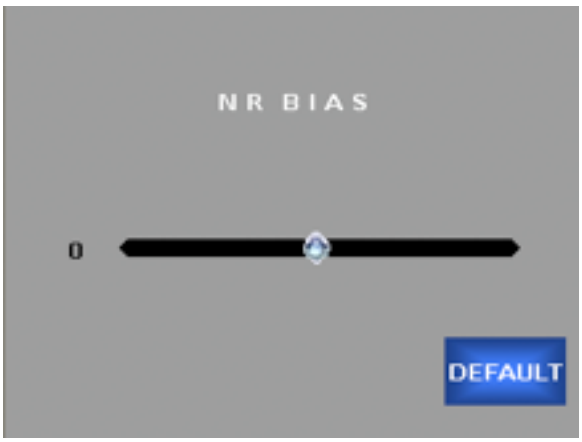
Bias Level (NR) Slider

The Bias menu adjusts the noise reduction Bias level.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -6dB to +6dB.
  - The default setting is 0dB.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The Bias level sets the threshold between when an object is considered noise and when it is considered to be in motion.



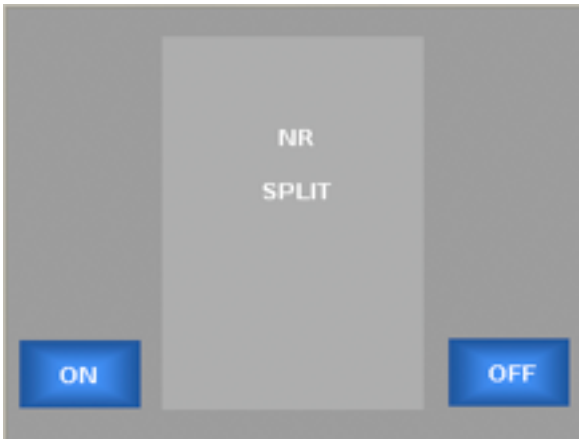
Navigation:
Main Menu > Adv > NR > NR Bias

Split Screen (NR) Menu

The Split Screen menu Enables/Disables the noise reduction Split Screen mode.

- **ON** – Enables the Noise Reduction, Split Screen mode. In this mode the image is divided vertically. The Left half of the image will not have any noise reduction applied. The Right half of the image will have noise reduction applied.
- **OFF** – Disables the Noise Reduction, Split Screen mode.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Adv > NR > Split

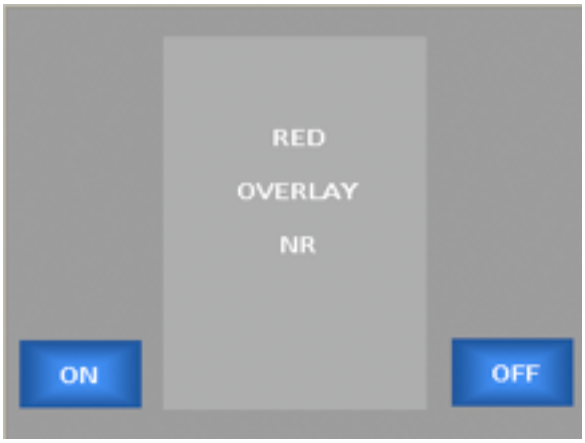
Red Overlay (NR) Menu

The Red (Overlay) menu Enables/Disables the noise reduction Red overlay.

- **ON** – Enables the Noise Reduction, Red Overlay. In this mode, pixels that are interpreted as in motion will be colored red.
- **OFF** – Disables the Noise Reduction, Red Overlay.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: In the Temporal Recursive Filter, the red overlay will show the pixels in the image that have been determined to be in motion. These pixels will not have any noise reduction applied to them. This helps to identify which pixels the temporal recursive filter is processing.



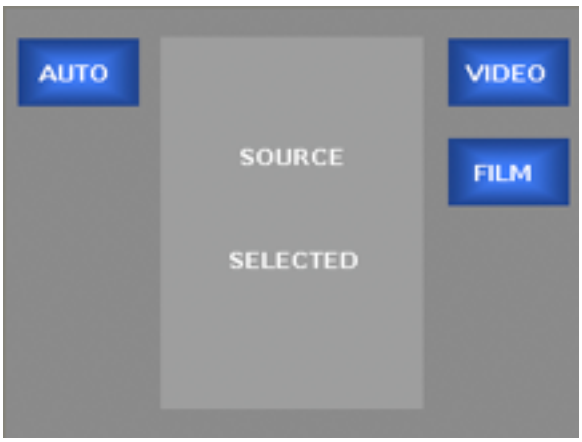
Navigation:
Main Menu > Adv > NR > Red

Source Menu

The Source menu provides access to the following features:

- **Auto** - Select this mode if the source material is a mixture of film and video. This mode selects a compromise algorithm that will look for film- and video-based material. For best results when the source material is known to be exclusively either film or video, select the **Film** or **Video** modes below.
- **Film** – Select this mode when the source material is film-originated. This mode will optimize the algorithms for processing film-originated material.
- **Video** – Select this mode if the source material is interlaced video material. This mode will optimize the algorithms for processing interlaced material.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



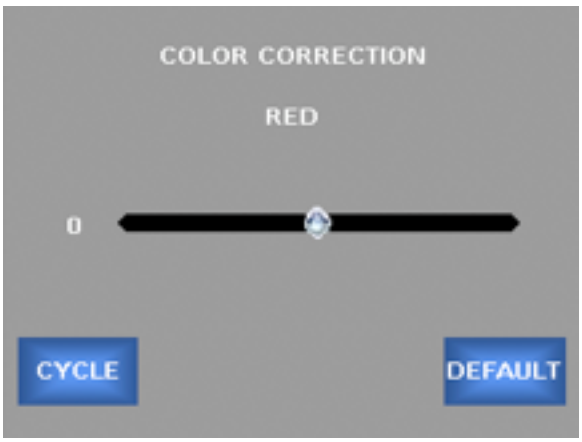
Navigation:
Main Menu > Adv > Source

Color Correct Sliders (Red)

Adjusts the Red Gain slider .

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -200 to +200
  - The default setting is 0.

➡ Press **Cycle** to go to the Green slider menu
➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



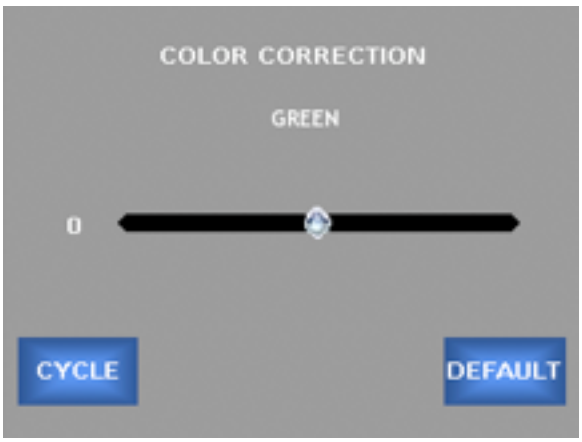
Navigation:
Main Menu > Adv > Color Correct

Color Correct Sliders (Green)

Adjusts the Green Gain slider

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -200 to +200
  - The default setting is 0.

➡ Press **Cycle** to go to the Blue slider menu
➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



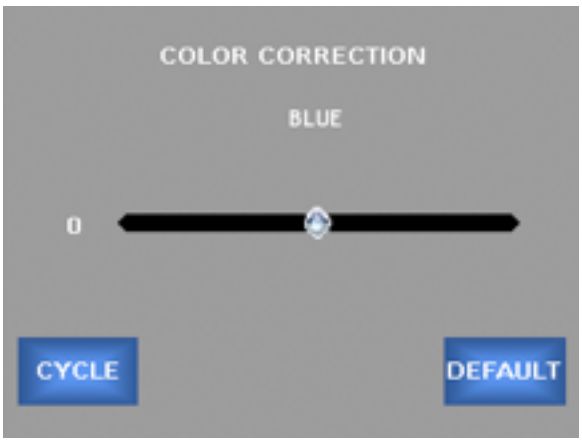
Navigation:
Main Menu > Adv > Color Correct > Cycle

Color Correct Sliders (Blue)

Adjusts the Blue Gain slider .

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is -200 to +200
  - The default setting is 0.

➡ Press **Cycle** to go to the Red slider menu
➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Adv > Color Correct > Cycle

Aperture Menu

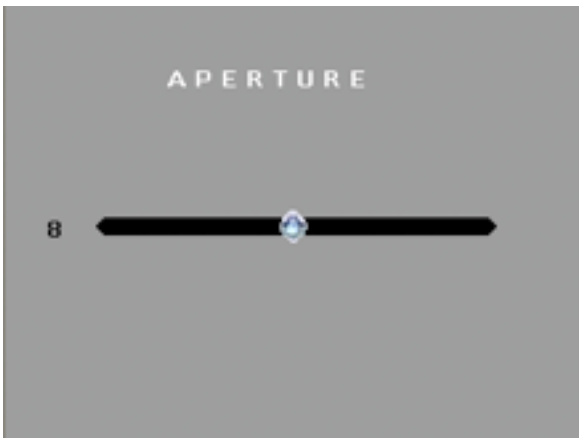
The Aperture menu allows the user to adjust the Aperture slider for frame-rate conversions

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 3.
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The Aperture slider is only available when performing a frame-rate conversion. See the Tables for SD frame frate-conversions and SD/HD frame-rate conversions on page 214 and 215 for a list of frame-rate conversions.

Note: When performing a frame rate conversion, the interpolation aperture is used to set the characteristics of the filter used to create the synthetic information in a frame rate conversion. A setting of 0 (drama) will give a sharper image with more potential for judder in motion areas. A setting of 3 (sport) will give a softer image with more blur in motion areas.



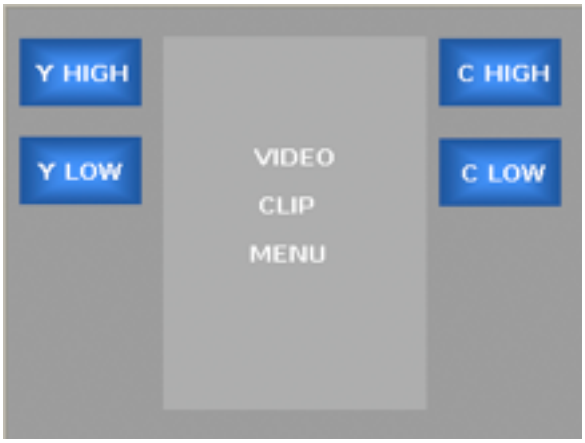
Navigation:
Main Menu > Adv > Aper

Clip (Video) Menu

The Clip menu allows access to the following features:

- **Y High** – Adjusts the Luma high Clip level.
- **Y Low** – Adjusts the Luma low Clip level.
- **C High** – Adjusts the Chroma high Clip level.
- **C Low** – Adjusts the Chroma low Clip level

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



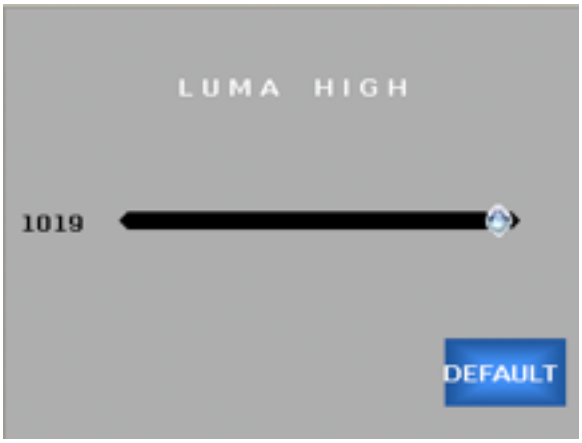
Navigation:
Main Menu > Adv > Clip

Y High Slider

The Y High slider adjusts the Luma (Luminance) high Clip level.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 1023.
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



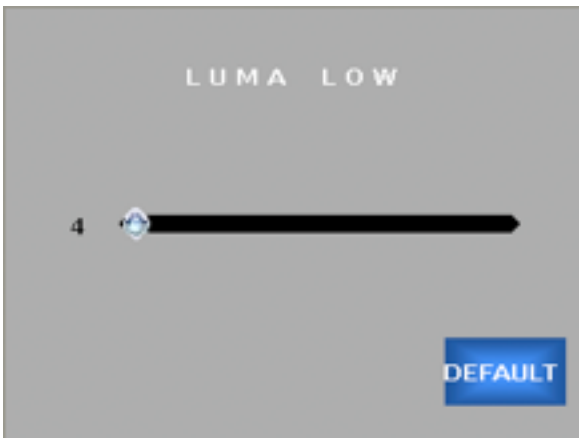
Navigation:
Main Menu > Adv > Clip > Y High

Y Low Slider

The Y Low slider adjusts the Luma (Luminance) low Clip level.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 1023.
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



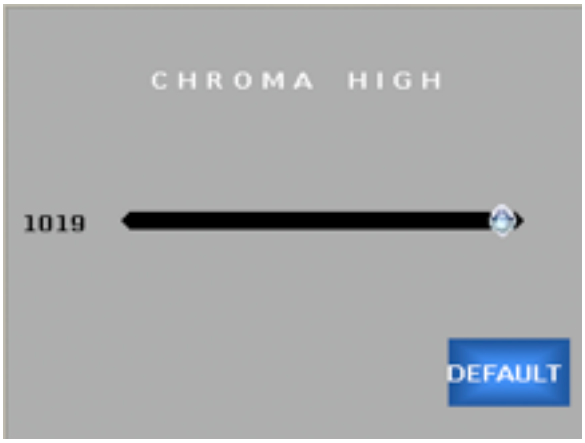
Navigation:
Main Menu > Adv > Clip > Y Low

C High Slider

The C High slider adjusts the Chroma high Clip level.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 1023.
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



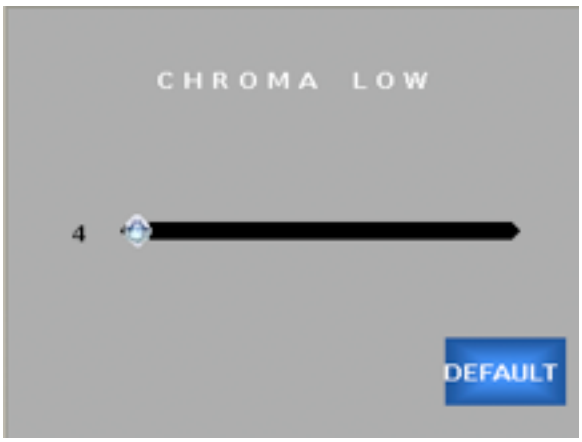
Navigation:
Main Menu > Adv > Clip > C High

C Low Slider

The C Low slider adjusts the Chroma low Clip level.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 1023.
  - The default setting is 0.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Adv > Clip > C Low

Scene Cut Menu

- **ON** - Enables Scene Cut Detection which preserves clean cuts between scenes. Upon detecting a cut, the temporal aperture is reduced from 4- fields to 2-fields for the first frame in the new scene. This prevents uncorrelated data from being used in the conversion process at scene boundaries.
- **OFF** - Disables Scene Cut Detection

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Navigation:
Main Menu > Adv > Scene Cut

Advanced (More) Menu

The Advanced (More) menu provides access to the following functions:

- **TVP** - Takes the user to the TVP menu
- **RP177** - Takes the user to the RP177 menu

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Navigation:
Main Menu > Adv > More

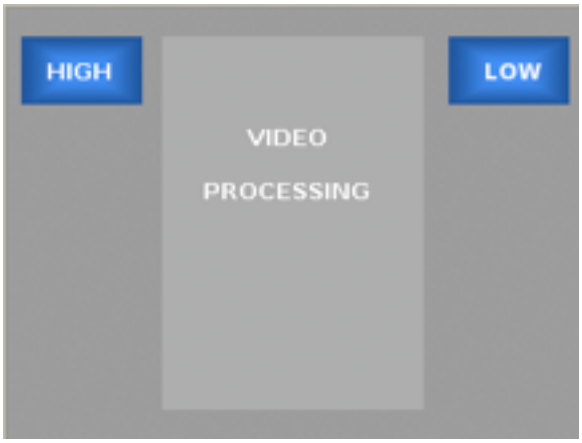
TVP Menu

The TVP menu sets the video processing mode of the system to High or Low.

- **High** - Sets the video processing mode to the highest quality. The processing delay through the VC100 will be 4 frames.
- **Low** - Sets the video processing mode to a lower quality, which will reduce the processing delay to 2 frames through VC100.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Noise Reduction will not function when the VC100 is operating in the TVP Low mode.



Navigation:
Main Menu > Adv > TVP

RP177 Menu

The RP177 menu enables the RP177 colorspace

- **On** - Enables the RP177 colorspace
- **OFF** - Disables the RP177 colorspace

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: SMPTE RP177 is intended to define the numerical procedures for deriving basic color equations for color television and other systems using additive display devices.

Navigation:
Main Menu > Adv > RP177

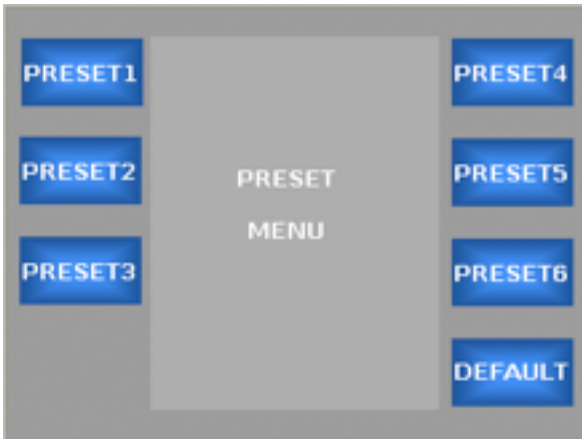
Preset Menu

The Preset menu allows the user to save or recall system settings to system memory.

- **PRESET1** - Saves or Recalls to/from system memory location 1.
- **PRESET2** - Saves or Recalls to/from system memory location 2.
- **PRESET3** - Saves or Recalls to/from system memory location 3.
- **PRESET4** - Saves or Recalls to/from system memory location 4.
- **PRESET5** - Saves or Recalls to/from system memory location 5.
- **PRESET6** - Saves or Recalls to/from system memory location 6.
- **DEFAULT** – The Default Preset is used as the power-on Preset. Parameters saved to this Preset will be loaded when the system is powered-on.
- **USB** - Takes the user to the USB (Load/Save) menu

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: At present the Presets do not capture all system parameters. See Appendix B for a list of the parameters that are being captured.



Navigation:
Main Menu > Preset

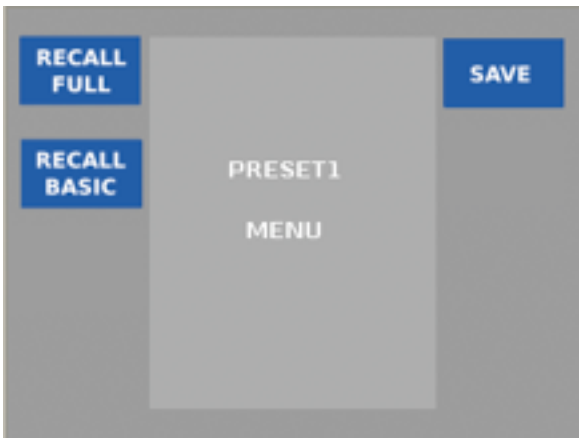
Preset1 Menu

The Preset 1 menu saves the current system settings to the Preset 1 memory or Recalls the stored values from the Preset 1 memory.

- **RECALL FULL** – Recalls all system parameters from the preset 1 memory.
- **RECALL BASIC** - Recalls the Basic system parameters from the preset 1 memory.
- **SAVE** - Saves all system parameters to the preset 1 memory.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: At present the Presets do not capture all system parameters. See Appendix B for a list of the parameters that are being captured.



Navigation:
Main Menu > Preset > Preset1

Recall Full Menu

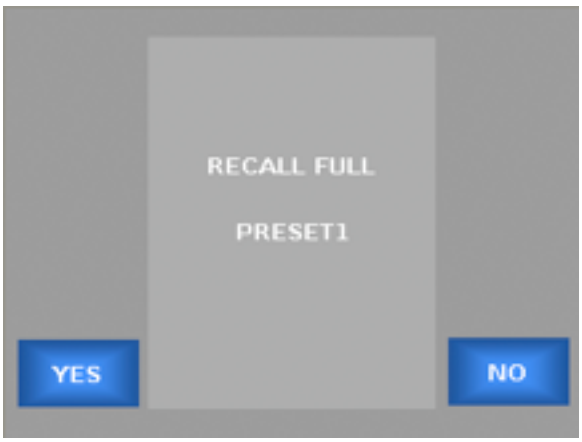
The Recall Full function recalls the Full values from the preset memory.

- **Yes** - Recalls the all system parameters from Preset 1 memory.
- **No** - Cancels the operation.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: See Appendix B for a list of parameters that are recalled in a Full Preset.

Note: Recalling a full preset may cause the system to reinitialize certain parameters. This will cause a momentary disturbance in audio and/or video output of the system.



Navigation:
Main Menu > Preset > Preset1 > Recall Full

Recall Basic Menu

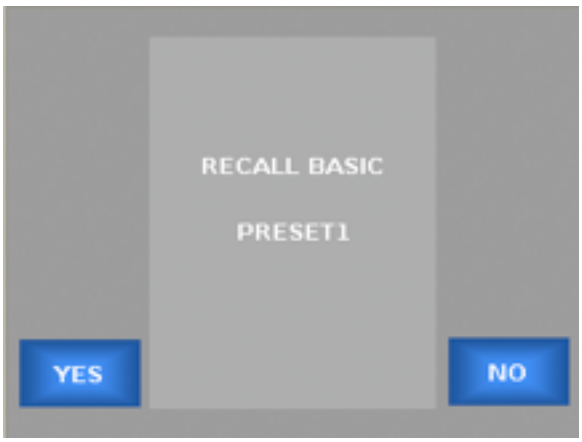
The Recall Basic function recalls the Basic values from the preset memory.

- **Yes** - Recalls the 'Basic' system parameters from Preset 1 memory.
- **No** - Cancels the operation.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: See Appendix B for a list of parameters that are recalled in a Basic Preset.

Note: Recalling a basic preset will not cause any visible or audible disturbances on the output of the system.



Navigation:
Main Menu > Preset > Preset1 > Recall Basic

Save Menu

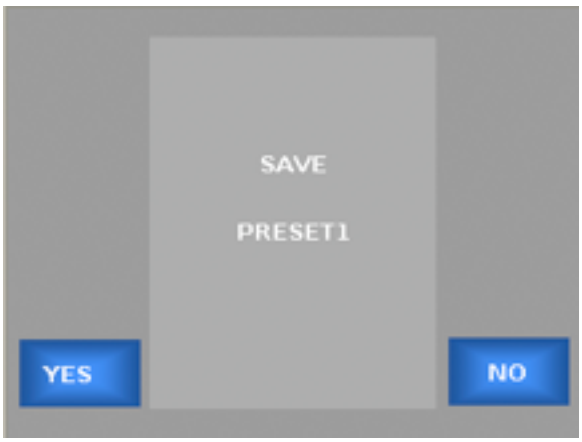
The Save function saves all parameters to the preset memory.

- **Yes** - Saves the all system parameters to Preset 1 memory.
- **No** - Cancels the operation.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The preset save function always saves all parameters to the preset memory.

Note: At present there are some parameters that are not saved. See Appendix B for a list of parameters that are currently being saved.



Navigation:
Main Menu > Preset > Preset1 > Save

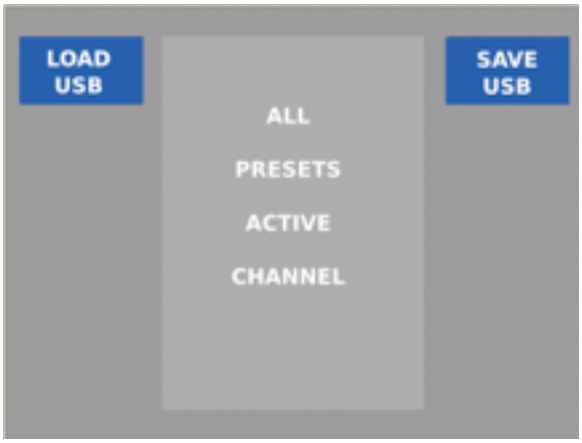
USB (Load/Save) Menu

The USB (Load/Save) menu allows the user to load/save the VC100 presets from/to a USB device.

- **LOAD USB** - Takes the user to the Load USB LOCATION menu.
- **SAVE USB** - Takes the user to the Save USB LOCATION menu..

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: This function requires software version 1.20.0.1584 or above



Navigation:
Main Menu > Preset > USB

USB Load Location Menu

The USB Load Location menu allows the user to load Global or System preset files from a USB device to the VC100.

- **GLOBAL** - Loads the GLOBAL preset files from a USB device to the VC100
- **SYSTEM** - Loads the SYSTEM preset files from a USB device to the VC100.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

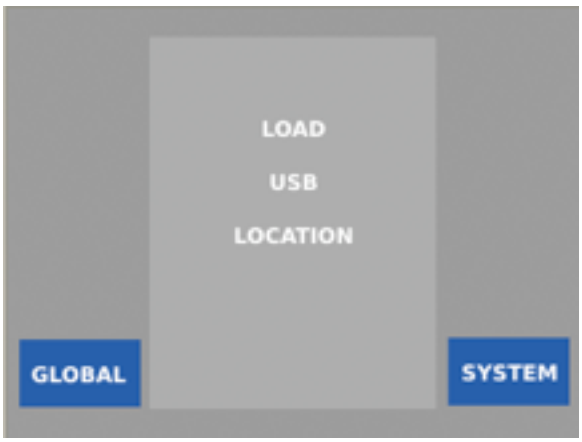
Note: This function requires software version 1.20.0.1584 or above

Note: **GLOBAL Presets** are preset files that may be loaded on to any VC100.

Note: **SYSTEM Presets** are preset files that are specific to a particular VC100. When the SYSTEM preset files are loaded from the USB device, the system will look for the preset files that are specific to the system that the USB device is connected to.

Note: Loading presets, whether GLOBAL or SYSTEM, from a USB device, will only store the preset files on the VC100. To enable a specific preset you must recall the preset by selecting it on the PRESET menu.

Note; See Appendix F, page 218, for details on the file structure used on the USB device for Preset storage.



Navigation:
Main Menu > Preset > USB > Load USB

USB Save Location Menu

The USB Save Location menu allows the user to save Global or System preset files from the VC100 to a USB device.

- **GLOBAL** - Saves the GLOBAL preset files from the VC100 to a USB device.
- **SYSTEM** - Saves the SYSTEM preset files from the VC100 to a USB device.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: This function requires software version 1.20.0.1584 or above

Note: **GLOBAL Presets** are preset files that may be loaded on to any VC100.

Note: **System Presets** - are preset files that are specific to a particular VC100. When the files are stored on the USB device, the files will be placed in a folder named with the last 6 characters of the system MAC address. This allows the user to store preset files from multiple VC100's on the same USB device.

Note; See Appendix F, page 218, for details on the file structure used on the USB device for Preset storage.

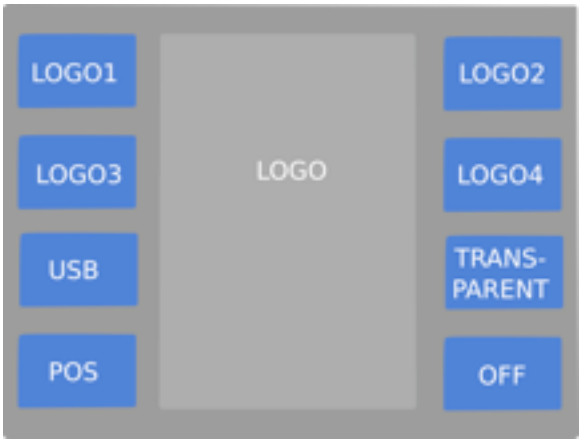
Navigation:
Main Menu > Preset > USB > Save USB

Logo Menu

The Preset menu allows the user to save or recall system settings to system memory.

- **LOGO1** - Turns on logo 1
- **LOGO2** - Turns on logo 2
- **LOGO3** - Turns on logo 3
- **LOGO4** - Turns on logo 4
- **USB** - Takes the user to the USB Transfer Menu
- **TRANSPARENT** - Takes the user to the R, G, and B Transparent Color Sliders
- **POS** - Takes the user to the Logo Position Menu
- **OFF** - Turns off the current logo

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

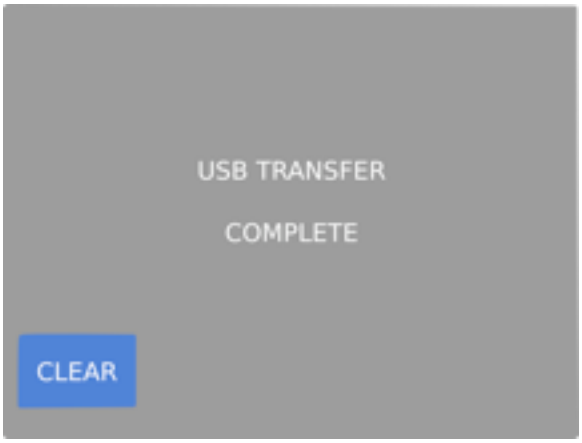


Navigation:
Main Menu > Logo

USB Menu

The USB menu initiates a download of all Logos from the USB storage device to the VC100.

- Press the ***Back*** button to move to the previous menu.
- Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Logo > USB

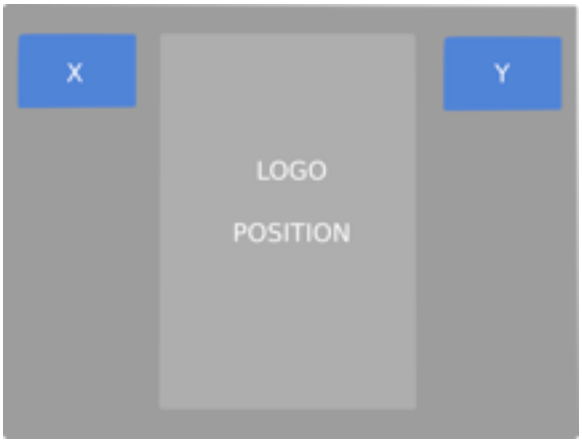
POS Menu

Sets the position of the on screen logo.

- **X** - Takes the user to the 'X' (horizontal) Position Slider
- **Y** - Takes the user to the 'Y' (vertical) Position Slider

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: If the position is set in one output format and the user switches to another output format the VC100 will attempt to locate the logo in a similar placement.



Navigation:
Main Menu > Logo > Pos

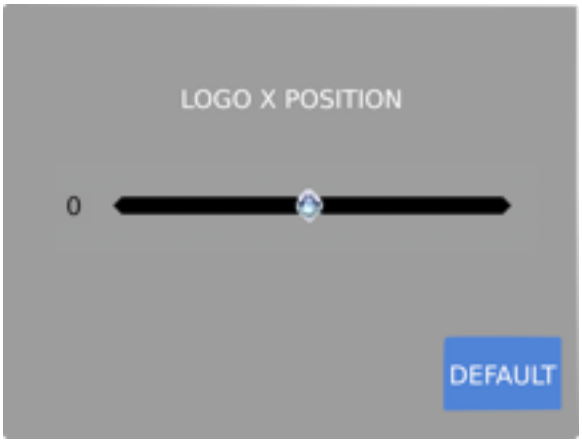
Logo X Position Slider

Adjusts the 'X' (horizontal) position of the currently enabled logo

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is:
    - 0 to 720-Logo Width (for 480i59.94 & 576i50)
    - 0 to 1280-Logo Width (for 720p)
    - 0 to 1920-Logo Width (for 1080)
  - The default value is:
    - 720 (for 480i59.94 & 576i50)
    - 1280 (for 720p)
    - 1920 (for 1080)

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The range of adjustment for the X position is the maximum image width minus the logo width. For example if you had a logo that was 50 pixels wide in a 480i59.94 output the maximum adjust would be 720-50=670.



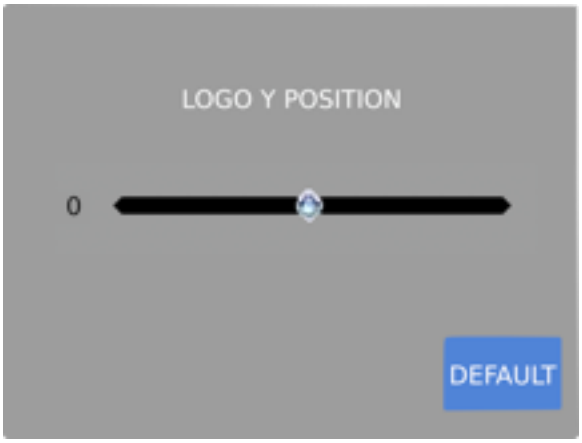
Navigation:
Main Menu > Logo > Pos > X

Logo Y Position Slider

Adjusts the 'Y' (vertical) position of the currently enabled logo

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is:
    - 0 to 488 (for 480i59.94)
    - 0 to 576 (for 576i50)
    - 0 to 720 (for 720p)
    - 0 to 1920 (for 1080)
  - The default value is:
    - 488 (for 480i59.94)
    - 576 (for 576i50)
    - 720 (for 720p)
    - 1080 (for 1080)

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Logo > Pos > Y

Transparent (Red) Slider

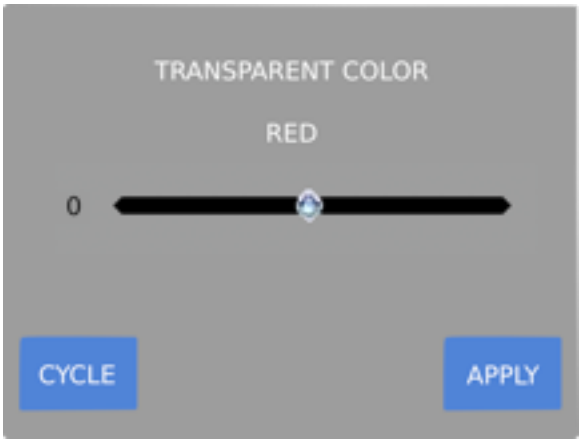
Adjust the Red value of the Transparent Color

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 255 (for each color)
- **Cycle** - Takes the user to the Transparent Color Green slider
- **Apply** - Set the currently selected value. Once pressed, the logo will automatically be refreshed with the selected transparent color value.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Pressing the Cycle button on the Transparent Color Red Slider page will take you to the Transparent Color Green Slider page. Pressing the Cycle button on this page will take you to the Transparent Color Blue Slider page. Pressing the Cycle button on this page will take you back to the Transparent Color Red Slider page

Note: the Transparent Color setting is global across all logos.



Navigation:
Main Menu > Logo > Transparent

Transparent (Green) Slider

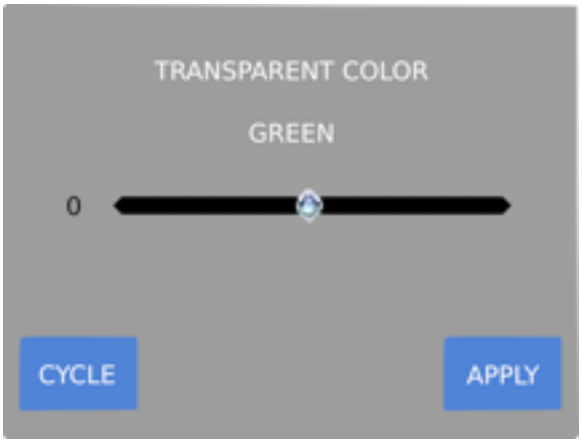
Adjust the Green value of the Transparent Color

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 255 (for each color)
- **Cycle** - Takes the user to the Transparent Color Blue slider
- **Apply** - Set the currently selected value. Once pressed, the logo will automatically be refreshed with the selected transparent color value.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Pressing the Cycle button on the Transparent Color Green Slider page will take you to the Transparent Color Blue Slider page. Pressing the Cycle button on this page will take you to the Transparent Color Red Slider page. Pressing the Cycle button on this page will take you back to the Transparent Color Green Slider page

Note: the Transparent Color setting is global across all logos.



Navigation:
Main Menu > Logo > Transparent

Transparent (Blue) Slider

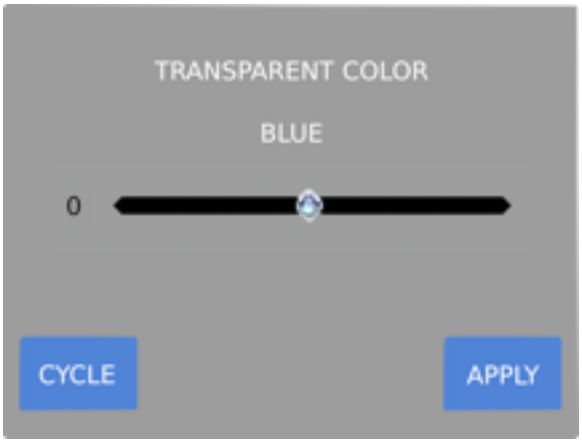
Adjust the Blue value of the Transparent Color

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 0 to 255 (for each color)
- **Cycle** - Takes the user to the Transparent Color Red slider
- **Apply** - Set the currently selected value. Once pressed, the logo will automatically be refreshed with the selected transparent color value.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Pressing the Cycle button on the Transparent Color Blue Slider page will take you to the Transparent Color Red Slider page. Pressing the Cycle button on this page will take you to the Transparent Color Green Slider page. Pressing the Cycle button on this page will take you back to the Transparent Color Blue Slider page

Note: the Transparent Color setting is global across all logos.



Navigation:
Main Menu > Logo > Transparent > Cycle

Configuration

Setup Menu

Takes the user to the Setup menu:

- **REF 1** – Takes the user to the External Reference 1 menu.
- **REF 2** – Takes the user to the External Reference 2 menu.
- **AUDIO** – Takes the user to the Audio (Setup) menu.
- **ANC** – Takes the user to the Ancillary Data Menu.
- **CMPNT** – Takes the user to the Analog Component IO (Setup) menu.
- **CMPST** – Takes the user to the Analog Composite IO (Setup) menu.
- **GPI** – Takes the user to the General Purpose Interface, GPI (Setup) menu.
- **MORE** – Takes the user to the page 2 of Setup menus.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Setup Menu - page 2

- **KEY** – Used to enter the System Access Key.
- DISPLAY – Not functional / Future expansion.
- SECTION – Not functional / Future expansion.
- **RMT IP** – Set the IP of the VC100 chassis that the Remote Control Panel will communicate with.
- **IP** – Allows the user to set the IP address for the chassis.
- **PNL IP** – Allow the user to set the IP address for the Front Panel.
- **RS PORT** – Allows the user to configure the RS port.
- RESET – Not functional / Future expansion.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Navigation:
Main Menu > Setup

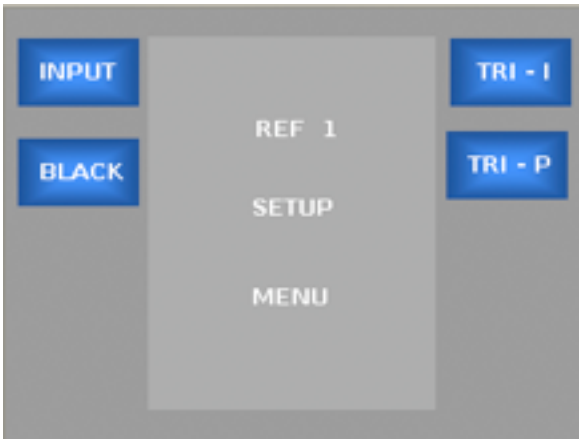
External Reference 1 Menu

The Ref 1 menu provides access to the following features:

- **INPUT** – Selects the current input video source as the reference for video processing channel 1.
- **BLACK** – Sets analog blackburst as the reference for video processing channel 1.
- **TRI-I** – Sets HD tri-level sync (interlaced) as the reference for video processing channel 1.
- **TRI-P** - Sets HD tri-level sync (progressive) as the reference for video processing channel 1.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The VC100 does not auto-detect the reference source. If you choose one of the external reference types and the reference is lost, the system will go into a free-run condition until the reference is reestablished.



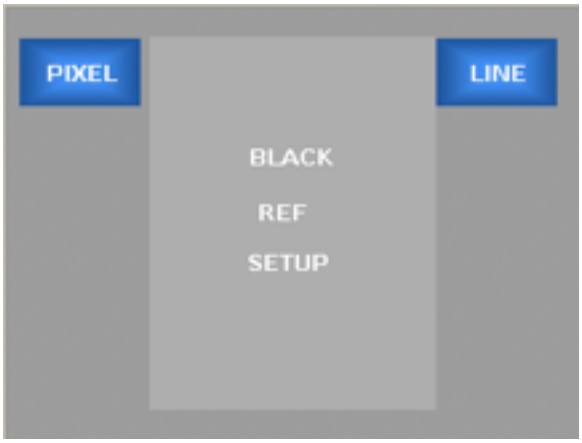
Navigation:
Main Menu > Setup > Ref 1

Black Menu

The Black menu sets analog blackburst as the reference for video processing channel 1 and allows adjustment of the pixel and line timing parameters.

- **PIXEL** - Adjusts the Pixel timing of the output relative to the analog blackburst reference for video processing channel 1.
- **LINE** - Adjusts the Line timing of the output relative to the analog blackburst reference for video processing channel 1.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



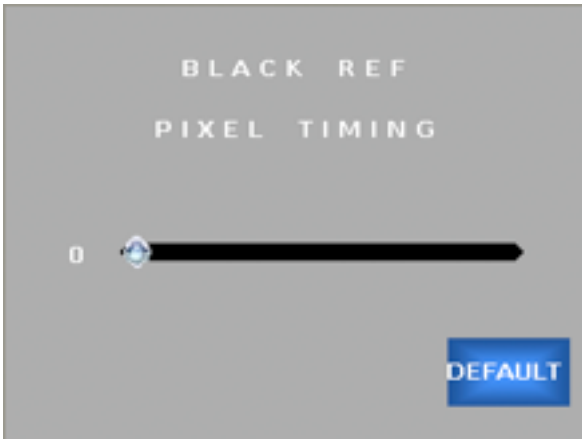
Navigation:
Main Menu > Setup > Ref 1 > Black

Pixel (Black) Slider

Adjusts the Pixel timing of the output relative to the analog blackburst reference for video processing channel 1.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is based on the current input/output format selection.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



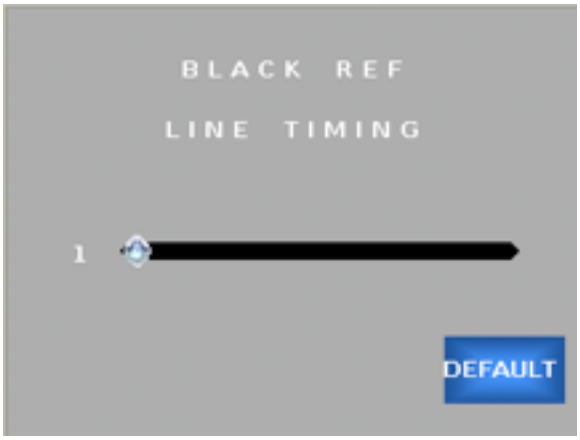
Navigation:
Main Menu > Setup > Ref 1 > Black > Pixel

Line (Black) Slider

Adjusts the Line timing of the output relative to the analog blackburst reference for video processing channel 1.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is based on the current input/output format selection.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



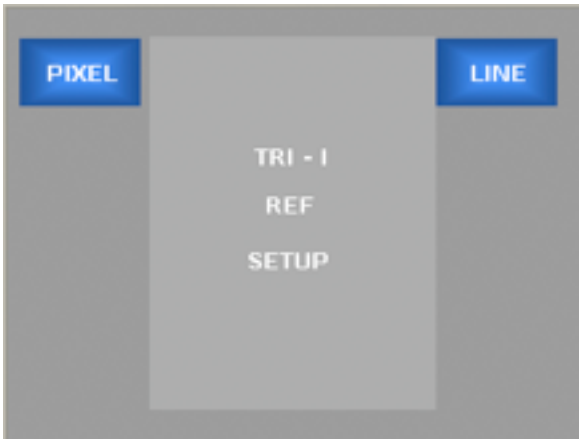
Navigation:
Main Menu > Setup > Ref 1 > Black > Line

Tri-level (interlaced) Menu

The Tri-I menu sets HD tri-level sync (interlaced) as the reference for video processing channel 1 and allows adjustment of the pixel and line timing parameters.

- **PIXEL** - Adjusts the Pixel timing of the output relative to the HD tri-level sync (interlaced) reference for video processing channel 1.
- **LINE** - Adjusts the Line timing of the output relative to the HD tri-level sync (interlaced) reference for video processing channel 1.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



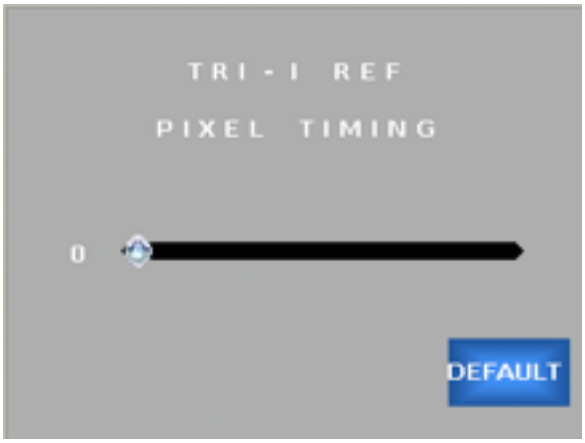
Navigation:
Main Menu > Setup > Ref 1 > Tri-I

Pixel (Tri-I) Slider

Adjusts the Pixel timing of the output relative to the HD tri-level sync (interlaced) reference for video processing channel 1.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is based on the current input/output format selection.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



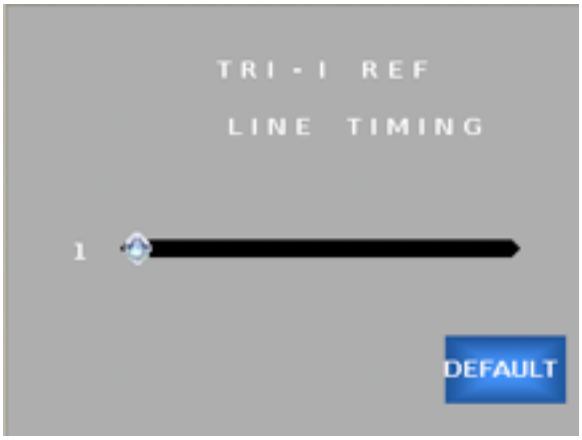
Navigation:
Main Menu > Setup > Ref 1 > Tri-I > Pixel

Line (Tri-I) Slider

Adjusts the Line timing of the output relative to the HD tri-level sync (interlaced) reference for video processing channel 1.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is based on the current input/output format selection.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



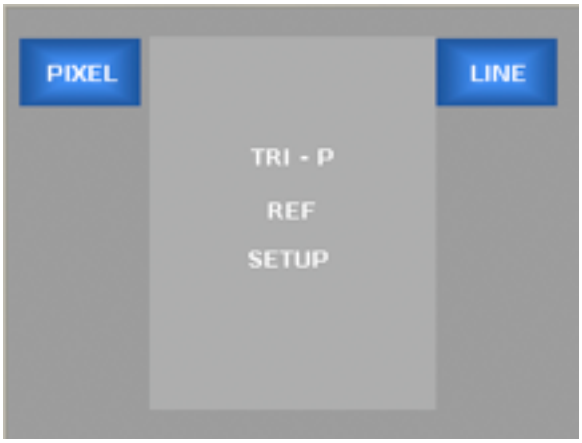
Navigation:
Main Menu > Setup > Ref 1 > Tri-I > Line

Tri-level (progressive) Menu

The Tri-P menu sets HD tri-level sync (progressive) as the reference for video processing channel 1 and allows adjustment of the timing parameters.

- **PIXEL** - Adjusts the Pixel timing of the output relative to the HD tri-level sync (progressive) reference for video processing channel 1.
- **LINE** - Adjusts the Line timing of the output relative to the HD tri-level sync (progressive) reference for video processing channel 1.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



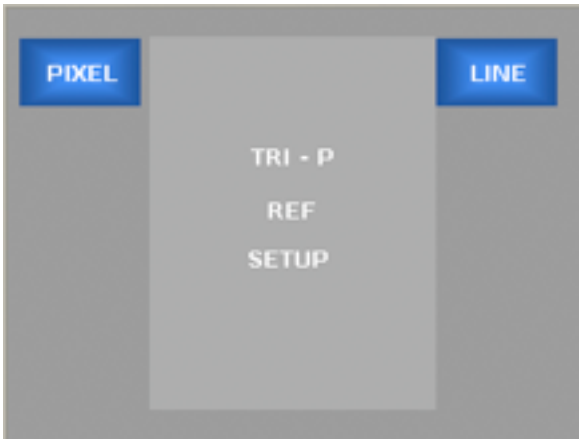
Navigation:
Main Menu > Setup > Ref 1 > Tri-P

Pixel (Tri-P) Slider

Adjusts the Pixel timing of the output relative to the HD tri-level sync (progressive) reference for video processing channel 1.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is based on the current input/output format selection.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



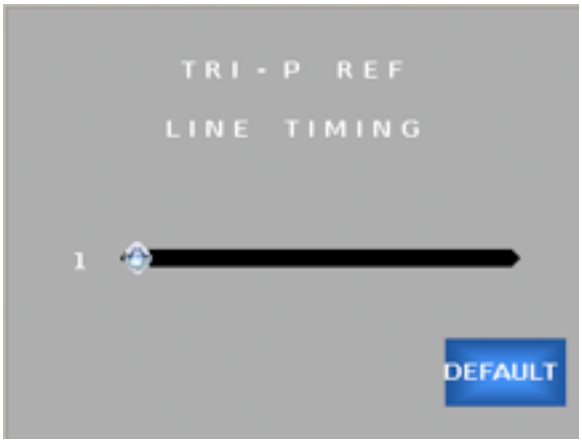
Navigation:
Main Menu > Setup > Ref 1 > Tri-P

Line (Tri-P) Slider

Adjusts the Line timing of the output relative to the HD tri-level sync (progressive) reference for video processing channel 1.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is based on the current input/output format selection.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



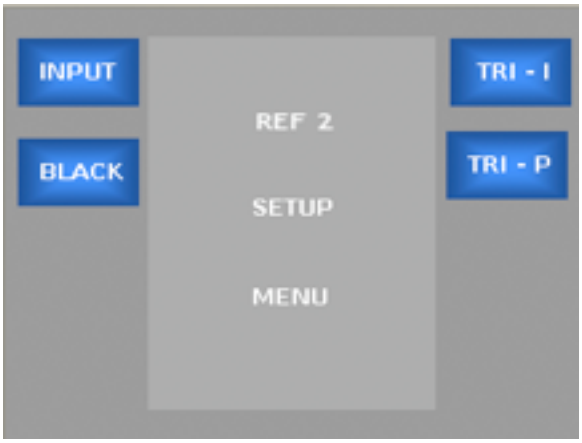
Navigation:
Main Menu > Setup > Ref 1 > Tri-P > Line

External Reference 2 Menu

The Ref 2 menu provides access to the following features:

- Press the ***Back*** button to move to the previous menu.
- Press the ***Home*** button to go back to the Main menu.

Note: Refer to External Reference 1 Menu, beginning of page 138, for details on the controls available in the Ref 2 menu.



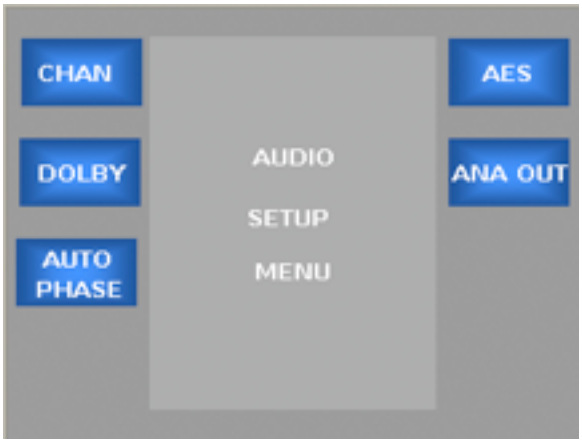
Navigation:
Main Menu > Setup > Ref 2

Audio (Setup) Menu

The Audio (Setup) menu provides access to the following features:

- **CHAN** – Takes the user to the Channel Assignment menu.
- **DOLBY** – Takes the user to the Dolby Decoder setup menu.
- **ERROR CHECK** - Takes the user to the Audio Error Checking enable menu.
- **AES** – Takes the user to the AES Audio Setup menu.
- **ANA OUT** – Takes the user to the Analog Audio Output Setup menu.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Setup > Audio

Channel Allocation Menu

The Channel Allocation menu allows the user to determine the number of audio channels available in each video processing channel.

- **0:16** – Zero (0) audio channels are assigned to video processing channel 1 and sixteen (16) audio channels are assigned to video processing channel 2.
- **4:12** – Four (4) audio channels are assigned to video processing channel 1 and twelve (12) audio channels are assigned to video processing channel 2.
- **8:8** – Eight (8) audio channels are assigned to video processing channel 1 and eight (8) audio channels are assigned to video processing channel 2. This is the default setting.
- **12:4** – Twelve (12) audio channels are assigned to video processing channel 1 and four (4) audio channels are assigned to video processing channel 2.
- **16:0** – Sixteen (16) audio channels are assigned to video processing channel 1 and zero (0) audio channels are assigned to video processing channel 2.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: This menu only applies to a VC100 in a 2 channel configuration. A two channel configuration means that the system has two completely independent video processing channels. The VC100 has a total of 16 audio channels. In the default settings there are 8 audio channels allocated or assigned to each video processing channel. If additional audio channels are needed for one of the video processing channels they may reallocated from the second video processing channel in groups of four. So, if you require 12 channels of audio for video processing channel 1, then there would be 4 channels left for video processing channel 2.

Note: The designation in the menu of x:x refers to the number of audio channels allocated to video processing channel 1 as related to the number of audio channels allocated to video processing channel 2. (e.g. 12:4)

Navigation:
Main Menu > Setup > Audio > Chan

Dolby (Setup) Menu

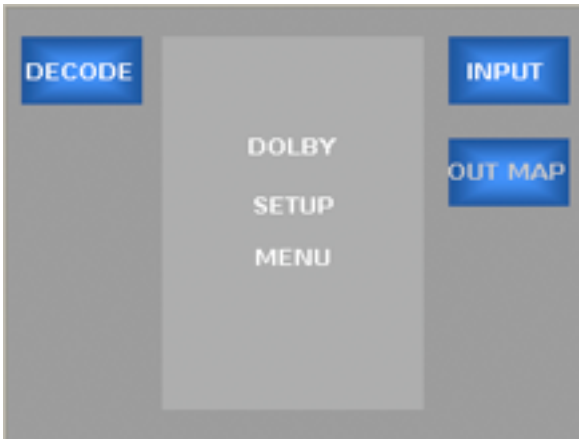
The Dolby (setup) menu allows the user to configure the Dolby-E decoder module option.

- **Decode** - Takes the user to the Dolby-E Decode enable menu.
- **Input** - Takes the user to the Dolby-E Decoder Input channels selection menu.
- Out Map - Not functional / Future expansion.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: At present the Dolby-E decoded channels are assigned to audio channel 1 to 8 for video processing channel 1 and channels 9 to 16 for video processing channel 2.

Note: The Dolby-E Decoder function requires the VC1-DOLBY-DEC option module to be installed. In a dual channel system, one module would be required for each processing channel.



Navigation:
Main Menu > Setup > Audio > Dolby

Decode (Dolby) Menu

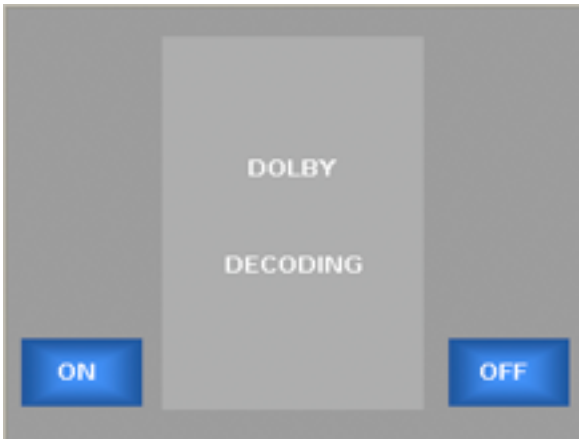
The Decode menu allows the user to Enable/Disable the Dolby-E decoder module for the selected video processing channel.

- **On** - Enables Dolby-E decoding for the selected video processing channel.
- **Off** - Disables Dolby-E decoding for the selected video processing channel.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: At present the Dolby-E decoded channels are assigned to audio channel 1 to 8 for video processing channel 1 and channels 9 to 16 for video processing channel 2.

Note: The Dolby-E Decoder function requires the VC1-DOLBY-DEC option module to be installed. In a dual channel system, one module would be required for each processing channel.



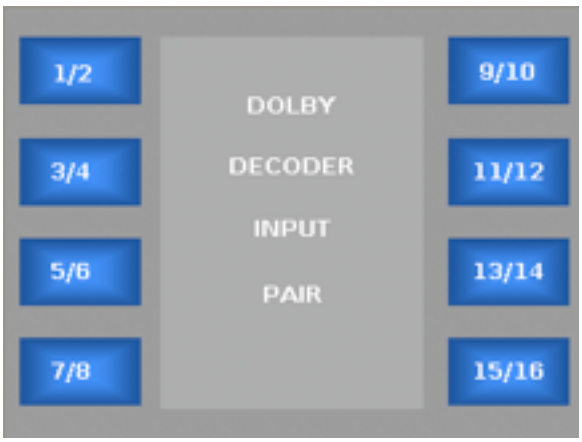
Navigation:
Main Menu > Setup > Audio > Dolby > Decode

Input (Dolby) Menu

The Input menu selects which audio Pair will be feed as an input to the Dolby-E decoder.

- **1/2** – Channels 1 & 2 are routed to the input of the Dolby-E decoder.
- **3/4** – Channels 3 & 4 are routed to the input of the Dolby-E decoder.
- **5/6** – Channels 5 & 6 are routed to the input of the Dolby-E decoder.
- **7/8** – Channels 7 & 8 are routed to the input of the Dolby-E decoder.
- **9/10** – Channels 9 & 10 are routed to the input of the Dolby-E decoder.
- **11/12** – Channels 11 & 12 routed feed to the input of the Dolby-E decoder.
- **13/14** – Channels 13 & 14 routed feed to the input of the Dolby-E decoder.
- **15/16** – Channels 15 & 16 routed feed to the input of the Dolby-E decoder.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Setup > Audio > Dolby > Input

Out Map (Dolby) Menu

The Dolby-E decoder module will output up to eight channel of audio. At present they are assigned to the Channels 1 to 8 in the VC100. The content of each channel is defined by the Dolby-E Encoding mode that was used as shown in the following table.

Dolby® E Program Config or Dolby Digital Coding Mode	Main Output Channel Assignment							
	Ch 1	Ch 2	Ch 3	Ch 4	Ch 5	Ch 6	Ch 7	Ch 8
5.1 + 2	1L	1R	1C	1LFE	1Ls	1Rs	2L	2R
5.1 + 1 + 1	1L	1R	1C	1LFE	1Ls	1Rs	2C	3C
4 + 4	1L	1R	1C	1S	2C	2S	2L	2R
4 + 2 + 2	1L	1R	1C	1S	3L	3R	2L	2R
4 + 2 + 1 + 1	1L	1R	1C	1S	3C	4C	2L	2R
4 + 1 + 1 + 1 + 1	1L	1R	1C	1S	4C	5C	2C	3C
2 + 2 + 2 + 2	1L	1R	3L	3R	4L	4R	2L	2R
2 + 2 + 2 + 1 + 1	1L	1R	3L	3R	4C	5C	2L	2R
2 + 2 + 1 + 1 + 1 + 1	1L	1R	3C	4C	5C	6C	2L	2R
2 + 1 + 1 + 1 + 1 + 1 + 1	1L	1R	4C	5C	6C	7C	2C	3C
1 + 1 + 1 + 1 + 1 + 1 + 1 + 1	1C	2C	3C	4C	5C	6C	7C	8C
5.1	1L	1R	1C	1LFE	1Ls	1Rs	None	None
4 + 2	1L	1R	1C	1S	None	None	2L	2R
4 + 1 + 1	1L	1R	1C	1S	None	None	2C	3C
2 + 2 + 2	1L	1R	3L	3R	None	None	2L	2R
2 + 2 + 1 + 1	1L	1R	3C	4C	None	None	2L	2R
2 + 1 + 1 + 1 + 1	1L	1R	4C	5C	None	None	2C	3C
1 + 1 + 1 + 1 + 1 + 1	1C	2C	3C	4C	5C	6C	None	None
4	1L	1R	1C	1S	None	None	None	None
2 + 2	1L	1R	None	None	None	None	2L	2R
2 + 1 + 1	1L	1R	None	None	None	None	2C	3C
1 + 1 + 1 + 1	1C	2C	3C	4C	None	None	None	None
3/2L (Dolby Digital)	1L	1R	1C	1LFE	1Ls	1Rs	None	None
3/2 (Dolby Digital)	1L	1R	1C	None	1Ls	1Rs	None	None
2/2L (Dolby Digital)	1L	1R	None	1LFE	1Ls	1Rs	None	None
2/2 (Dolby Digital)	1L	1R	None	None	1Ls	1Rs	None	None
3/1L (Dolby Digital)	1L	1R	1C	1LFE	1S	None	None	None
3/1 (Dolby Digital)	1L	1R	1C	None	1S	None	None	None
2/1L (Dolby Digital)	1L	1R	None	1LFE	1S	None	None	None
2/1 (Dolby Digital)	1L	1R	None	None	1S	None	None	None
3/0L (Dolby Digital)	1L	1R	1C	1LFE	None	None	None	None
3/0 (Dolby Digital)	1L	1R	1C	None	None	None	None	None
2/0 (Dolby Digital)	1L	1R	None	None	None	None	None	None
1/0 (Dolby Digital)	None	None	1C	None	None	None	None	None
1+1 (Dolby Digital)	1C	2C	None	None	None	None	None	None
PCM	1L	1R	None	None	None	None	None	None

AES (Setup) Menu

The AES (Setup) menu allows the user to configure the AES audio option for balanced or unbalanced operation.

- **BAL** – Sets the AES audio input & output to the Balanced format
- **UNBAL** – Sets the AES audio input & output to the Unbalanced format

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

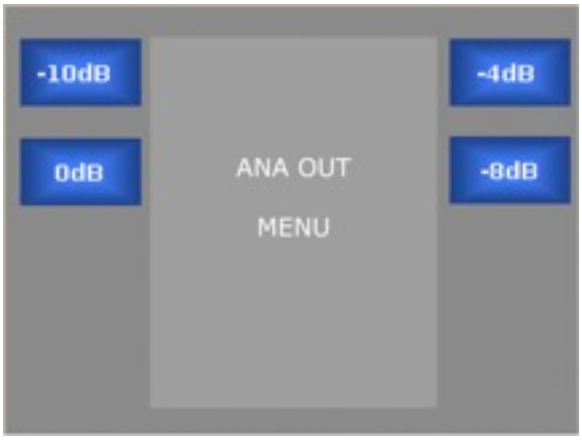
Navigation:
Main Menu > Setup > Audio > AES

Analog Audio Output (Setup) Menu

The ANA OUT menu allows he user to configure the output reference level for the analog audio outputs.

- **-10dB** – Sets the Analog audio output reference level to -10dB.
- **0dB** – Sets the Analog audio output reference level to 0dB.
- **+4dB** – Sets the Analog audio output reference level to +4dB.
- **+8dB** – Sets the Analog audio output reference level to +8dB.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Setup > AUDIO > Ana Out

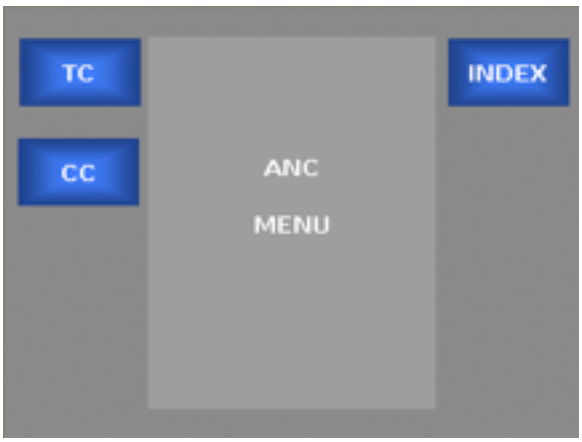
Ancillary Data Menu

The Ancillary Data menu provides access to the following features:

- **TC** – Takes the user to the Timecode menu
- **CC** – Takes the user to the Closed Caption menu
- INDEX – Takes the user to the Video Indexing menu.

➡ Press the ***Back*** button to move to the previous menu
➡ Press the ***Home*** button to go back to the Main menu

Note: The VC100 does not pass the entire ancillary data space. It will only process the items on the Ancillary Data Menu as shown above.



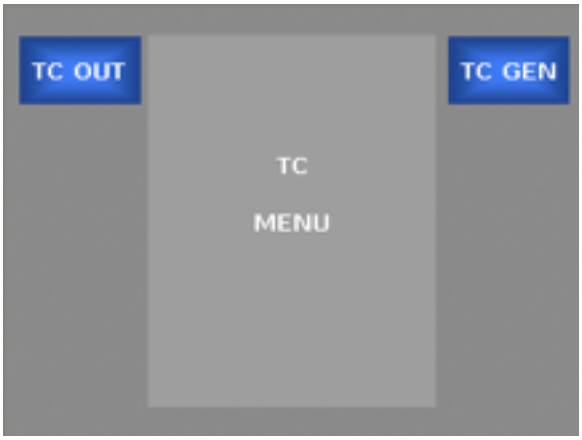
Navigation:
Main Menu > Setup > Anc

Timecode Menu

The Timecode menu allows the user to configure the Timecode functions of the system.

- **TC OUT** – Selects the line on which timecode will be inserted in an SD output.
- TC GEN – Not functional / Future expansion.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



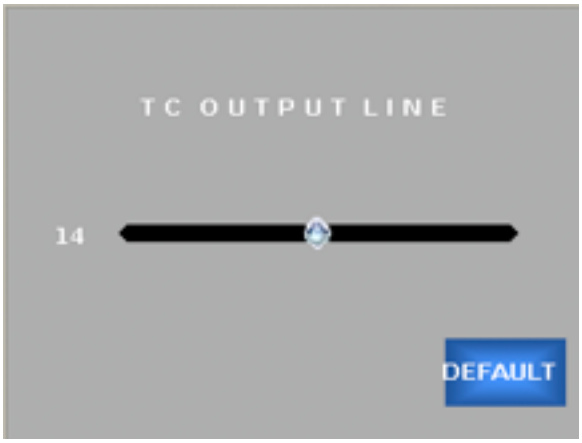
Navigation:
Main Menu > Setup > Anc > TC

TC Out Slider

The TC Out slider selects the line that timecode will be inserted on in a standard definition (SD) output.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is Line 9 to Line 19.
  - The default setting is 14.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



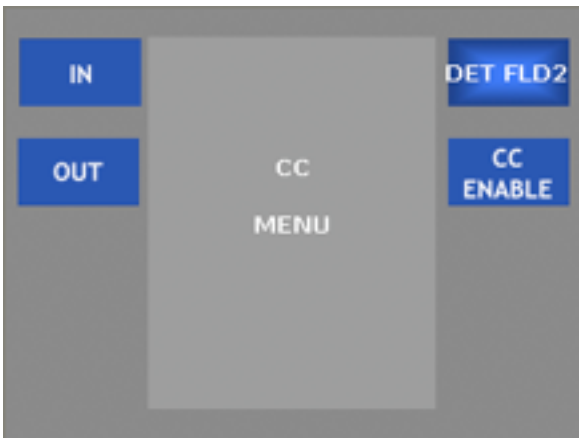
Navigation:
Main Menu > Setup > Anc > TC > TC Out

Closed Caption Menu

The Closed Caption menu allows the user to configure the Closed Caption functions in the system.

- **IN** - Selects the input line for closed caption detection.
- **OUT** - Selects the output line for closed caption processing.
- **DET FLD 2** - Enables the field 2 closed caption detection.
- **CC ENABLE** – Enables Closed Caption support.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



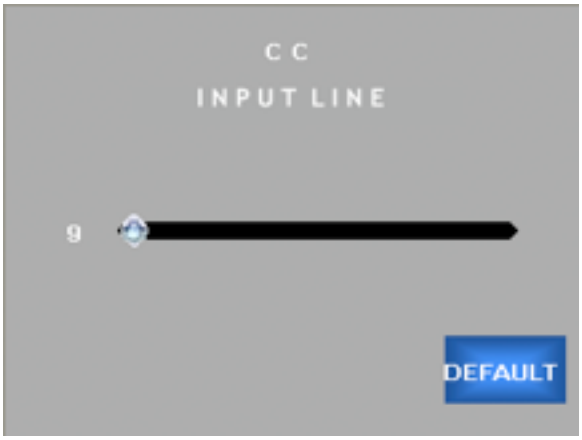
Navigation:
Main Menu > Setup > Anc > CC

IN Slider

The IN slider is used to select the line on which closed caption information is located in the incoming signal.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is Line 9 to Line 21 for SD and Line 9 to Line 19 for HD.
  - The default setting is Line 21 for SD and Line 9 for HD.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



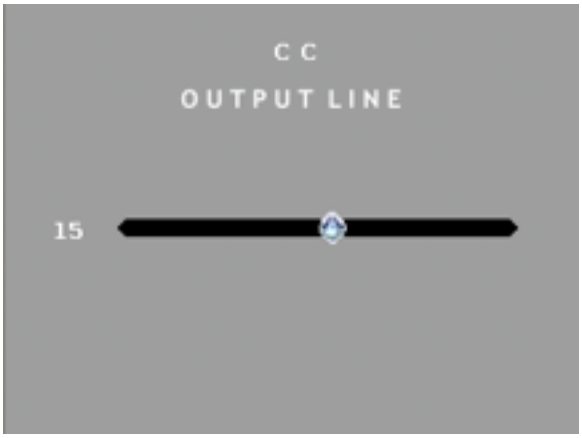
Navigation:
Main Menu > Setup > Anc > CC > IN

OUT Slider

The OUT slider is used to select the line that closed caption information will be inserted on in the output signal.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is Line 9 to Line 21 for SD and 9 to Line 19 for HD.
  - The default setting is Line 21 for SD and Line 9 for HD.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



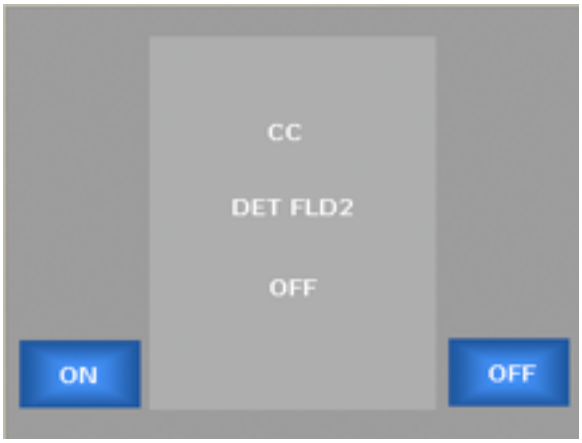
Navigation:
Main Menu > Setup > Anc > CC > OUT

Detect Field 2 Menu

The Detect Field 2 menu Enables/Disables the detection of field 2 closed caption information.

- **ON** – Enables Field 2 detection of closed caption information.
- **OFF** – Disables Field 2 detection of closed caption information.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



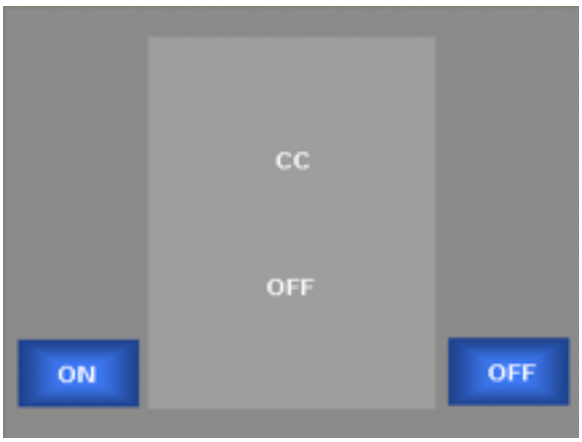
Navigation:
Main Menu > Setup > Anc > CC > Det Fld 2

Closed Caption Enable Menu

The CC Enable menu Enables/Disables Closed Caption processing for the currently selected video processing channel.

- **ON** – Enables Closed Caption support.
- **OFF** – Disables Closed Caption support.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Setup > Anc > CC > CC

Index Menu

The Index menu Enables/Disables one of the video indexing methods

- **WSS** – Enables WSS (Wide Screen Signaling) support.
- **RP186** – Enables RP186 support.
- **AFD** - Enables AFD support and takes the user to the AFD menu.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The 3 video indexing modes, WSS, RP186, and AFD are mutually exclusive. Only one maybe active at given time.

Note: At present the VC100 will not pass or insert WSS codes. It will only respond to them if WSS is enabled and a flag is present.

Note: At present the VC100 will not pass or insert RP186 codes. It will only respond to them if RP-186 is enabled and a flag is present.

Note: See Appendix G for additional information of the video indexing modes.

Navigation:
Main Menu > Setup > Anc > Index

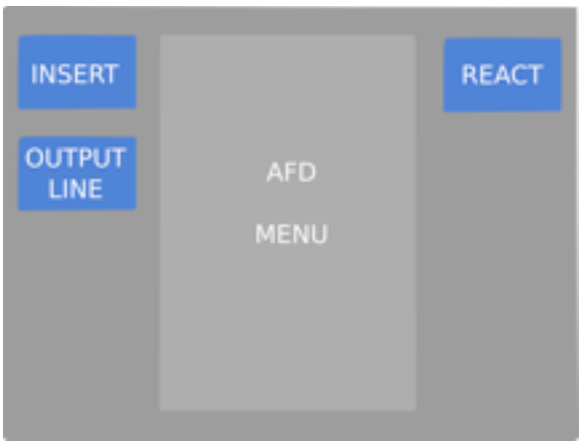
Active Format Description Menu

The AFD menu allows the user to configure the Active Format Description mode

- INSERT - Takes the user to the AFD Insertion menu
- OUTPUT LINE - Allows the user to select the line on which the AFD will be inserted in the output video signal
- REACT - Takes the user to the AFD Reaction menu

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The 3 video indexing modes, WSS, RP186, and AFD are mutually exclusive. Only one maybe active at given time.

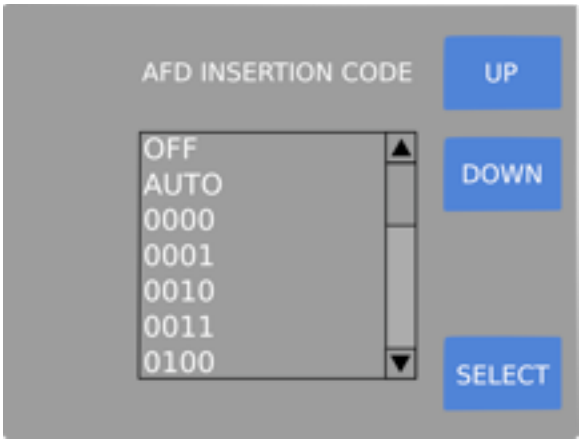


Navigation:
Main Menu > Setup > Anc > Index > AFD

(AFD) Insert Menu
Allows the user to insert an AFD code into the ancillary data space of the output video signal. The code will be inserted into the line selected by the AFD Output Line slider (see page xx).

- **OFF** - No AFD will be inserted
- **AUTO** - Refer to the table on paged 244 for a list of the AFD codes that will automatically be inserted based on the currently selected output aspect ratio
- **0000 to 1111** - Refer to table on page 245 for codes inserted in a 4:3 output frame and the for codes inserted in a 16:9 output frame.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



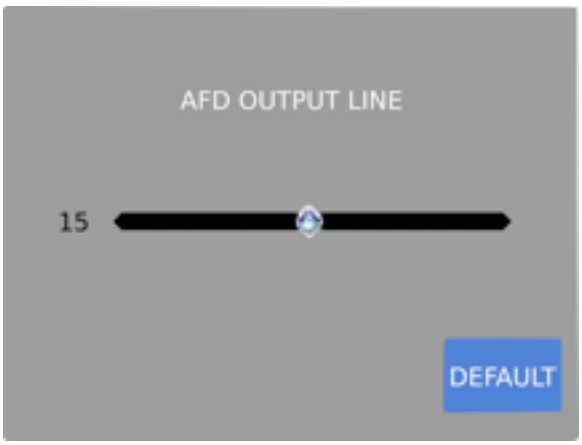
Navigation:
Main Menu > Setup > Anc > Index > AFD > Insert

AFD Output Line Slider

Allows the user to select the line on which the AFD code will be inserted in the ancillary data space of the output video signal.

- To adjust, turn the ***Rotary Encoder*** on the control panel.
- Press the ***Default*** soft button to go back to the default value.
  - The range of adjustment is 10 to 19
  - The default value is 10

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



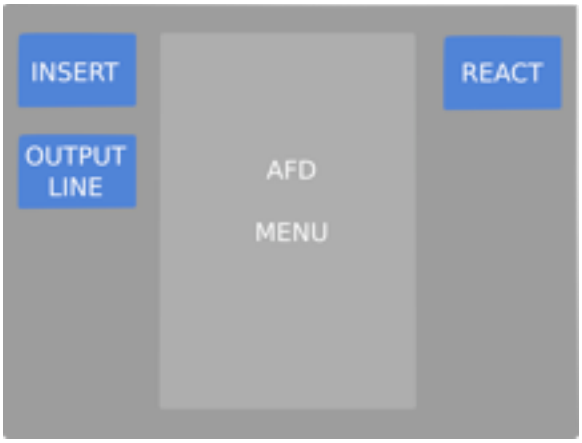
Navigation:
Main Menu > Setup > Anc > Index > AFD > Output Line

AFD React Menu

Allows the VC100 to react to AFD codes embedded in the input video stream.

- ON - The VC100 will react to the AFD code by changing the aspect ratio according to the table on page 246 for a 4:3 coded frame and to the table on page 247 for a 16:9 coded frame.
- OFF - The VC100 will not react to AFD code

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



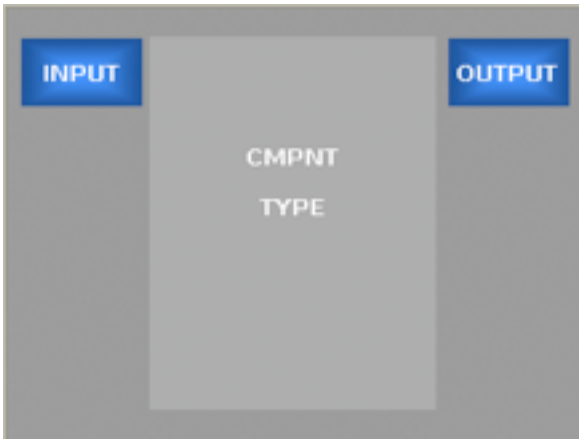
Navigation:
Main Menu > Setup > Anc > Index > AFD > React

Analog Component IO (Setup) Menu

The CMPNT menu allows the user to configure analog component input and output for the system.

- **INPUT** – Allows the user to select the Analog Component Input type.
- **OUTPUT** – Allows the user to select the Analog Component Output type.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



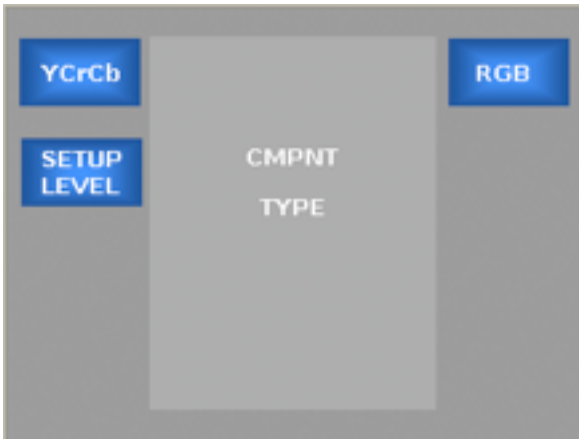
Navigation:
Main Menu > Setup > CMPNT

Analog Component IO (Setup) Menu

The Input menu allows the user to configure the analog component input for the system.

- **YCrCb** – Sets the Analog Component input to Y,Cr,Cb.
- **RGB** – Sets the Analog Component input to RGB.
- **SETUP LEVEL** - Enables/Disables the Setup Level for the Component input.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



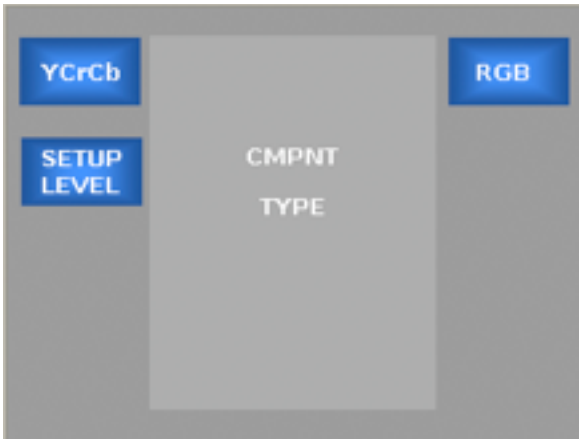
Navigation:
Main Menu > Setup > CMPNT > Input

Analog Component IO (Setup) Menu

The Output menu allows the user to configure the analog component output for the system.

- **YCrCb** – Sets the Analog Component output to Y,Cr,Cb.
- **RGB** – Sets the Analog Component output to RGB.
- **SETUP LEVEL** - Enables/Disables the Setup Level for the Component output.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



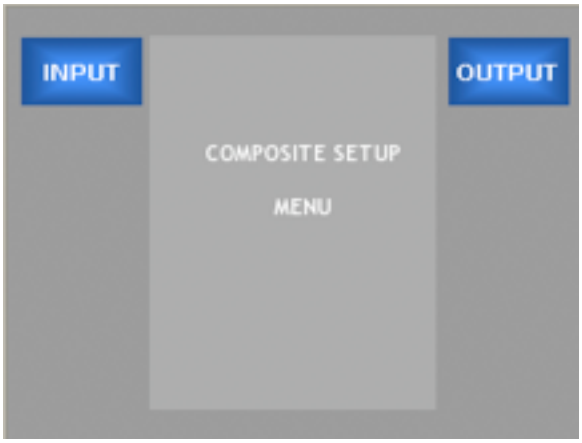
Navigation:
Main Menu > Setup > CMPNT > Output

Composite Setup Menu

The CMPST menu allows the user to configure the analog composite input and output for the system.

- **INPUT** - Takes the user to the analog composite input setup menu.
- **OUTPUT** - Takes the user to the analog composite output setup menu.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



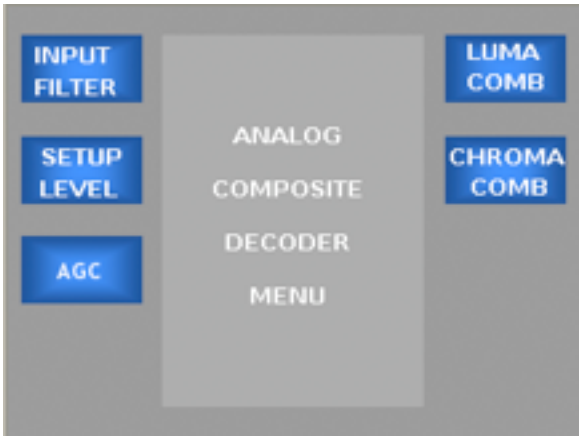
Navigation:
Main Menu > Setup > CMPST

Composite Input Menu

The Input menu allows the user to configure the analog composite input menu for the system.

- **INPUT FILTER** - Takes the user to the input filter selection menu.
- **SETUP LEVEL** - Takes the user to setup level enable menu.
- **AGC** - Takes the user to the automatic gain control (AGC) enable menu.
- **LUMA COMB** - Takes the user to the luminance comb filter setup menu.
- **CHROMA COMB** - Takes the user to the chrominance comb filter setup menu.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Setup > CMPST > Input

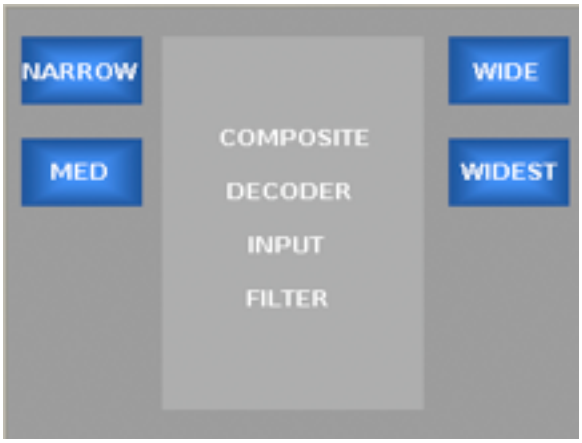
Input Filter Menu

The Input Filter menu allows the user to configure the filter that is used for the analog composite decoder.

- **NARROW** - Selects a narrow signal bandwidth to be fed to the comb filter
- **MED** - Selects a medium signal bandwidth to be fed to the comb filter
- **WIDE** - Selects a wide signal bandwidth to be fed to the comb filter
- **WIDEST** - Selects the widest signal bandwidth to be fed to the comb filter

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The Input Filter determines how much of the overall signal bandwidth is fed to the comb filter. A narrow filter selection gives better performance on diagonal lines, but leaves more dot crawl in the final output image. The opposite is true for selecting a wide bandwidth filter.



Navigation:
Main Menu > Setup > CMPST > Input > Input Filter

Setup Level

The Setup Level menu Enables/Disables the setup level to be expected for the analog composite input.

- **ON** - Configures the system for an NTSC composite input signal with a 7.5 IRE setup level.
- **OFF** - Configures the system for an NTSC composite input signal without a 7.5 IRE setup level.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Navigation:
Main Menu > Setup > CMPST > Input > Setup Level

AGC (Automatic Gain Control) Menu

The AGC menu enables/Disables the Automatic Gain Control for the analog composite input.

- **ON** - Enables AGC for the selected analog composite input.
- **OFF** - Disables AGC for the selected composite input.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: When enabled it ensures that the output video signal maintains at a constant level regardless of any variations in the input signal. The composite decoder takes measurements of the sync pulse on the input signal and compares it against a target value. This is then used to determine the appropriate gain of all three channels (Y, R-Y, B-Y) at the output of the decoder circuit.

Navigation:
Main Menu > Setup > CMPST > Input > AGC

Luma Comb Menu

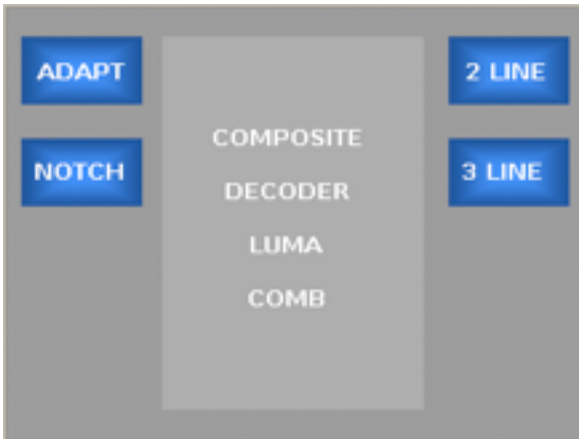
Configures the Luminance Comb Filter Decoder selection for NTSC analog composite Inputs.

- **ADAPT** - Uses an Adaptive filter for the luminance comb filter decoding.
- **NOTCH** - Uses a Notch filter for the luminance comb filter decoding.
- **2 LINE** - Uses a 2 Line filter for the luminance comb filter decoding.
- **3 LINE** - Uses a 3 Line filter for the luminance comb filter decoding.

Configures the Luminance Comb Filter Decoder selection for PAL analog composite Inputs.

- **ADAPT** - Uses an Adaptive filter for the luminance comb filter decoding.
- **NOTCH** - Uses a Notch filter for the luminance comb filter decoding.
- **3 LINE** - Uses a 3 Line filter for the luminance comb filter decoding.
- **5 LINE** - Uses a 5 Line filter for the luminance comb filter decoding.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Setup > CMPST > Input > Luma Comb

Chroma Comb Menu

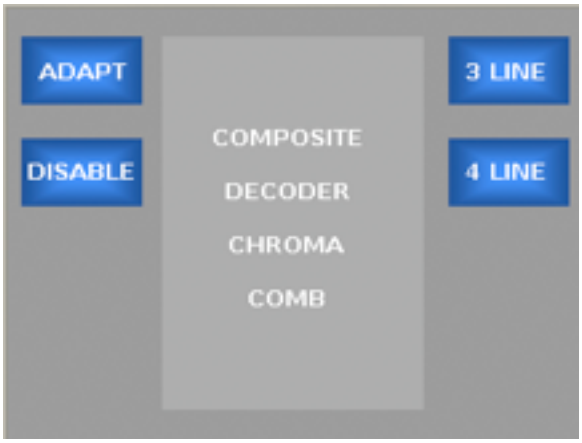
Configures the Chrominance Comb Filter Decoder selection for NTSC analog composite Inputs.

- **ADAPT** - Uses an Adaptive filter for the chrominance comb filter decoding.
- **DISABLE** - Disables the chrominance comb filter decoding.
- **3 LINE** - Uses a 3 Line filter for the luminance comb filter decoding.
- **4 LINE** - Uses a 4 Line filter for the luminance comb filter decoding.

Configures the Chrominance Comb Filter Decoder selection for PAL analog composite Inputs.

- **ADAPT** - Uses an Adaptive filter for the chrominance comb filter decoding
- **DISABLE -** Disables the chrominance comb filter decoding.
- **4 LINE** - Uses a 4 Line filter for the luminance comb filter decoding.
- **5 LINE** - Uses a 5 Line filter for the luminance comb filter decoding.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



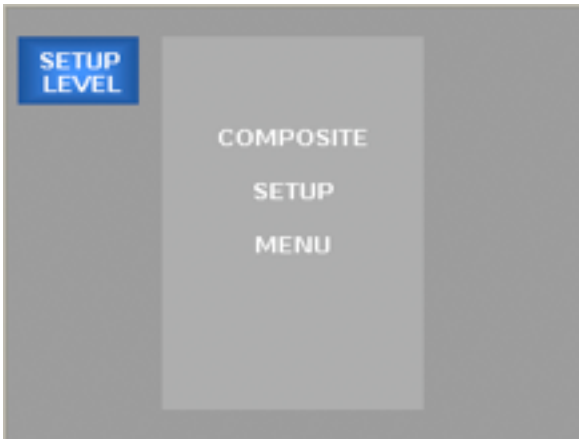
Navigation:
Main Menu > Setup > CMPST > Input > Chroma Comb

Composite Output Setup Menu

The Output menu allows the user to configure the analog composite output of the system.

- **SETUP LEVEL** - Takes the user to the Setup Level menu.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Setup > CMPST > Output

Setup Level Menu

The Setup Level menu allows the user to Enable/Disable the setup level on the analog composite output.

- **ON** - Configures the system for an NTSC composite output signal with a 7.5 IRE setup level.
- **OFF** - Configures the system for an NTSC composite output signal without a 7.5 IRE setup level.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Navigation:
Main Menu > Setup > CMPST > Output > Setup Level

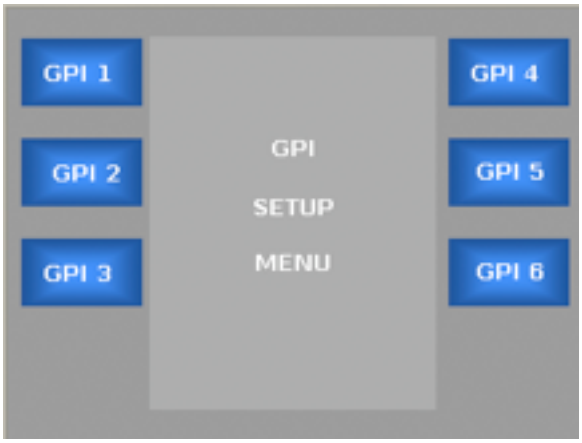
GPI (General Purpose Interface) Menu

The GPI menu allows the user to configure the general purpose interface (GPI) for the system.

- **GPI 1** – Configures GPI 1 for the selected video processing channel.
- **GPI 2** – Configures GPI 2 for the selected video processing channel.
- **GPI 3** – Configures GPI 3 for the selected video processing channel.
- **GPI 4** – Configures GPI 4 for the selected video processing channel.
- **GPI 5** – Configures GPI 5 for the selected video processing channel.
- **GPI 6** – Configures GPI 6 for the selected video processing channel.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: See Appendix E for a pin-out of the GPI Connector



Navigation:
Main Menu > Setup > GPI

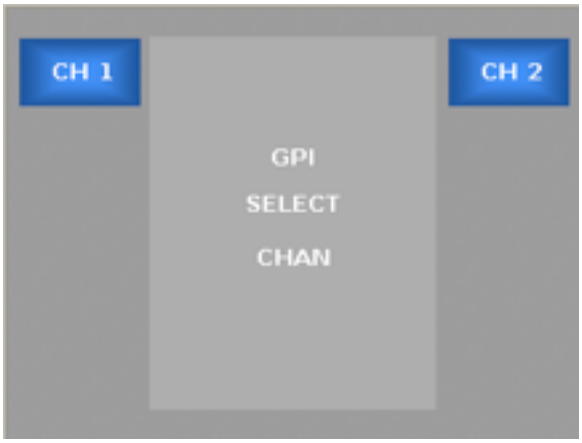
Channel Selection (GPI) Menu

The GPI 1, Channel menu allows the user to select the video processing channel that will be affected by the currently selected GPI.

- **CH 1** – Configures the GPI for video processing channel 1.
- **CH 2** – Configures the GPI for video processing channel 2.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Repeat for GPI 2 to 6



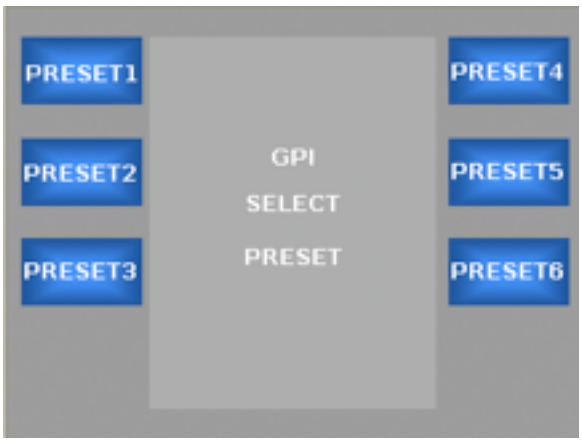
Navigation:
Main Menu > Setup > GPI > GPI 1

Preset Selection (GPI) Menu

The Preset Menu allows the user to select, which Preset will be recalled by the currently selected GPI.

- **PRESET 1** – Assigns PRESET 1 to the selected GPI.
- **PRESET 2** – Assigns PRESET 2 to the selected GPI.
- **PRESET 3** – Assigns PRESET 3 to the selected GPI.
- **PRESET 4** – Assigns PRESET 4 to the selected GPI.
- **PRESET 5** – Assigns PRESET 5 to the selected GPI.
- **PRESET 6** – Assigns PRESET 6 to the selected GPI.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Setup > GPI > GPI 1 > CH 1

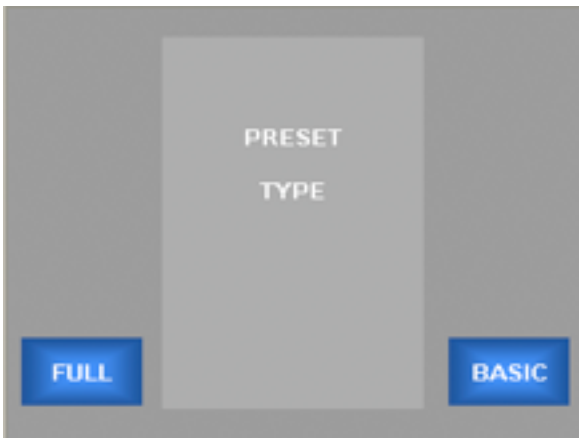
Preset Type (GPI) Menu

The Preset Type menu allows the user to select whether the Preset that is recalled by the currently selected GPI is a Basic preset of a Full preset.

- **Full** - Recalls the 'Full' version of the preset via GPI.
- **Basic** - Recalls the 'Basic' version of the preset via GPI.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: See Appendix B for a list of the parameters that are stored in a Full preset vs. a Basic preset.



Navigation:
Main Menu > Setup > GPI > GPI 1 > CH 1 > Preset1

Setup Menu - More (Page 2)

The Setup (More) menu provides access to the following features:

- **KEY** – Used to enter the System Access Key.
- DISPLAY – Not functional / Future expansion.
- SECTION – Not functional / Future expansion.
- **RMT IP** – Set the IP of the VC100 chassis that the Remote Control Panel will communicate with.
- **IP** – Allows the user to set the IP address for the chassis.
- **PNL IP** – Allow the user to set the IP address for the Front Panel.
- **RS PORT** – Allows the user to configure the RS port.
- RESET – Not functional / Future expansion.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Navigation:
Main Menu > Setup > More

Key (License Key) Menu

The Key menu allows the user to enter or modify the license access key for the system.

- **CONFIRM** - Confirms that the user wants to enter the Key Menu.
- **CANCEL** - Cancels the operation.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: Modifying the system license access key can affect the overall operation of the unit. Please use care when entering this menu.

Navigation:
Main Menu > Setup > More > Key

Key (License Key) Menu

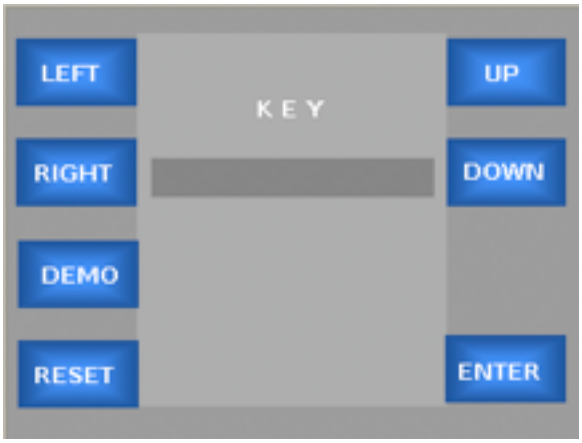
The Key Menu allows the user to enter or edit the license access key.

- **LEFT** – Moves the cursor left, one position.
- **RIGHT** - Moves the cursor right, one position.
- **UP** – Scrolls up through the list 0-9, A-Z.
- **DOWN** – Scrolls down through the list 0-9, A-Z.
- **DEMO** - Places the VC100 into Demo mode.
- **RESET** – Resets (deletes) the currently entered Key.
- **ENTER** – Press to accept the Access Key.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: The VC100 uses an encypted access key to enable features such as dual channel operation, noise reduction and linear standards conversion. Demo mode allows an exisitng user to 'preview' these feature by unlocking them on their system. When operating in Demo mode, a highlighted rectangle is overlaid on the output video.

Note: DEMO mode allows an existing user to 'preview' these features by temporarily unlocking them on their system. When operating in DEMO mode, a highlighted rectangle is overlaid on the output video.



Navigation:
Main Menu > Setup > More > Key > Confirm

Remote IP Address Menu

The Remote IP menu allows the user to configure IP address of the Remote Control panel for either automatic or manual mode.

- AUTO - Not functional / Future expansion.
- **MANUAL** - Takes the user to the Remote IP address setup menu.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: This menu is only available on remote control panels

Navigation:
Main Menu > Setup > More > RMT IP

Remote IP Address Menu

The Manual (Remote IP) menu is used to enter the IP address of the chassis that you wish to connect to with a remote control panel.

- **LEFT** – Moves the cursor left, one position.
- **RIGHT** - Moves the cursor right, one position.
- **UP** – Scrolls up through the list 0-9.
- **DOWN** – Scrolls down through the list 0-9.
- **DSCNCT** – Disconnects the Remote Control Panel from the VC100 chassis.
- **CNCT** – Connects the Remote Control Panel to the Chassis selected by the Remote IP Address.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: This menu is only available on remote control panels.

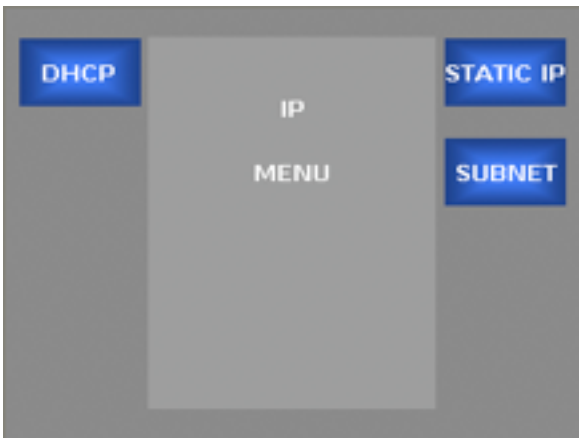
Navigation:
Main Menu > Setup > More > RMT IP > Manual

IP Address Menu

The IP menu allows the user to configure the IP address of the chassis.

- **DHCP** – Assign an IP address to the VC100 chassis using Dynamic Host Configuration Protocol (DHCP).
- **STATIC IP** – Allows the VC100 chassis IP address to be manually entered.
- **SUBNET** – Not functional / Future expansion.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



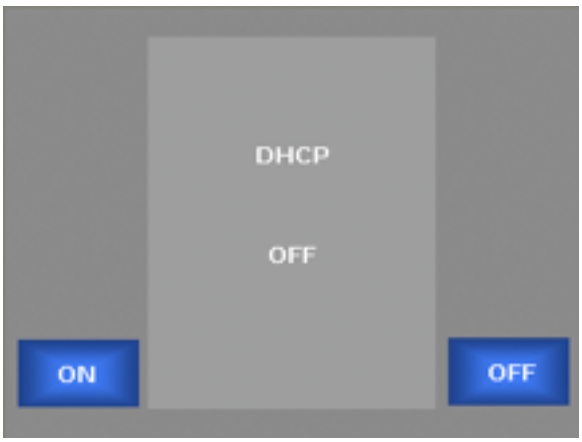
Navigation:
Main Menu > Setup > More > IP

DHCP Menu

The DHCP menu Enables/Disables the assigning of an IP address to the VC100 chassis using Dynamic Host Configuration Protocol (DHCP).

- **ON** – Enables DHCP IP address assignment.
- **OFF** – Disables DHCP.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Setup > More > IP > DHCP

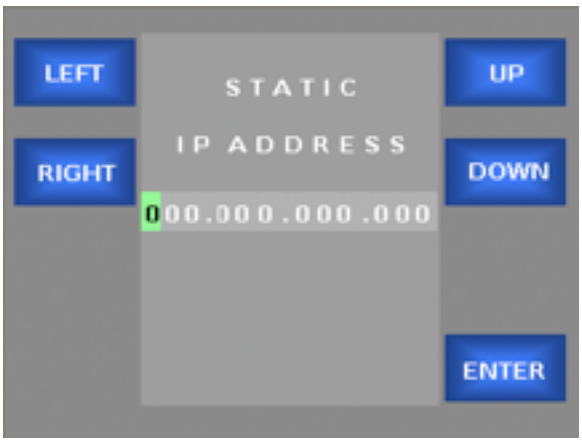
Static IP Menu

The Static IP menu allows the user to set the IP address of the VC100 chassis manually.

- **LEFT** – Moves the cursor left, one position.
- **RIGHT** - Moves the cursor right, one position.
- **UP** – Scrolls up through the list 0-9.
- **DOWN** – Scrolls down through the list 0-9.
- **ENTER** – Press to accept the Access Key.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: DHCP must be turned off to use this function.



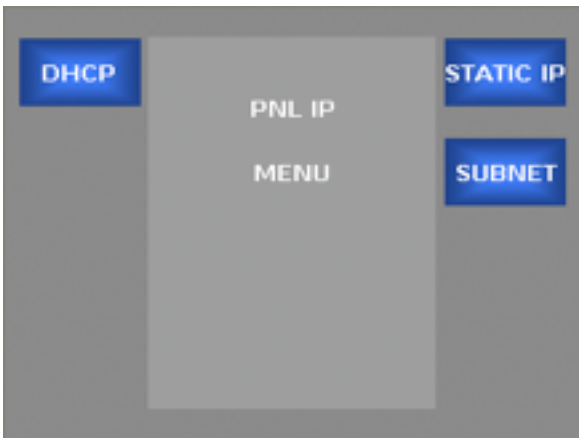
Navigation:
Main Menu > Setup > More > IP > Static IP

Control Panel IP Address Menu

The PNL IP menu allows the user to set the IP address for the VC100 Local Control Panel.

- **DHCP** – Assign an IP address to the VC100 Local Control Panel using Dynamic Host Configuration Protocol (DHCP).
- **STATIC IP** – Allows the VC100 Local Control Panel IP address to be manually entered.
- SUBNET – Not functional / Future expansion.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



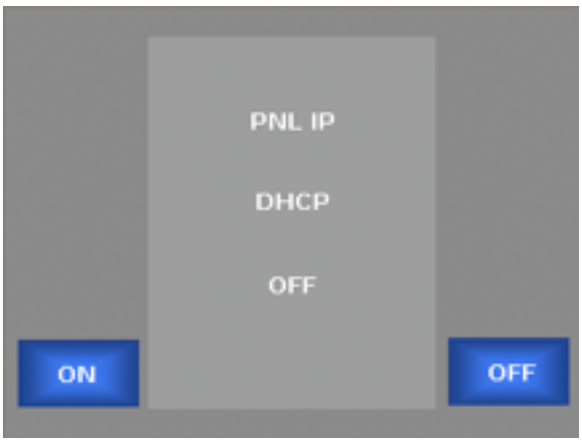
Navigation:
Main Menu > Setup > More > PNL IP

DHCP Menu

The DHCP menu Enables/Disables the assigning an IP address to the VC100 Local Control Panel using Dynamic Host Configuration Protocol (DHCP).

- **ON** – Enables DHCP IP address assignment.
- **OFF** – Disables DHCP.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Setup > More > PNL IP > DHCP

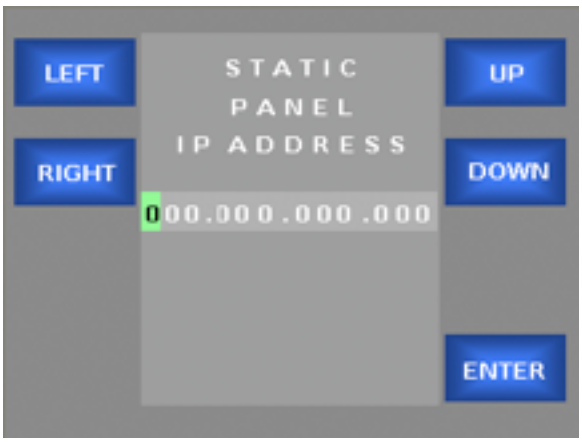
Static IP Menu

The Static IP menu allows user to set the IP address of the VC100 Local Control Panel manually.

- **LEFT** – Moves the cursor left, one position.
- **RIGHT** - Moves the cursor right, one position.
- **UP** – Scrolls up through the list 0-9.
- **DOWN** – Scrolls down through the list 0-9.
- **ENTER** – Press to accept the Access Key.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: DCHP must be turned off to use this feature.



Navigation:
Main Menu > Setup > More > PNL IP > Static IP

Serial Port

The RS Port menu allows the user to configure the Serial Communication Port of the system.

- **RS232** - Configures the serial port for RS232.
- **RS422** - Configures the serial port for RS422.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Note: See Appendix D for a pin-out of the Serial Port Connector.

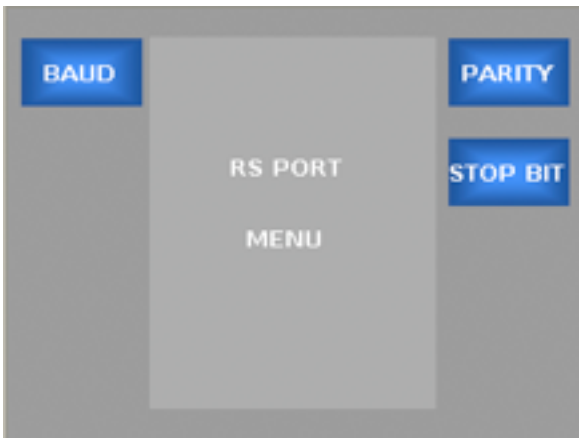
Navigation:
Main Menu > Setup > More > RS Port

RS232 Menu

The RS232 menu allows the user to configure the serial communication port for RS232 and adjust the parameters of the port.

- **BAUD** - Takes the user to the RS232 baud rate menu.
- **PARITY** - Takes the user to the RS232 parity menu.
- **STOP BIT** - Takes the user to the RS232 stop bit menu.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Setup > More > RS Port > RS232

Baud Rate (RS232) Menu

The Baud menu allows the user to configure the Baud rate of the RS232 port.

- **9600** - Sets the baud rate of the RS232 port to 9600 bits/s.
- **19200** - Sets the baud rate of the RS232 port to 19200 bits/s.
- **38400** - Sets the baud rate of the RS232 port to 38400 bits/s.
- **57600** - Sets the baud rate of the RS232 port to 57600 bits/s.
- **115200** - Sets the baud rate of the RS232 port to 115200 bits/s.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

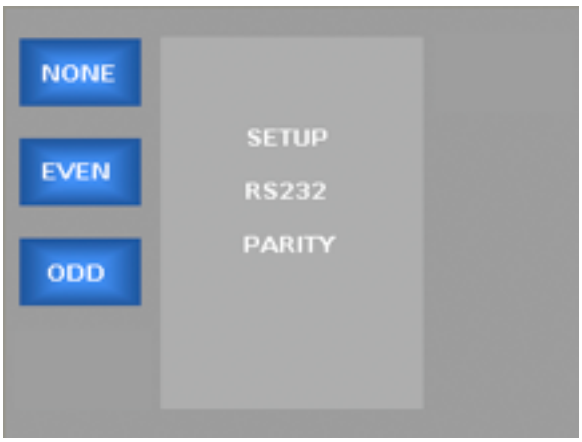
Navigation:
Main Menu > Setup > More > RS Port > RS232 > Baud

Parity (RS232) Menu

The Parity menu allows the user to configure the Parity used for the RS232 port communications.

- **NONE** - Sets the parity for the RS232 port to None.
- **EVEN** - Sets the parity for the RS232 port to Even.
- **ODD** - Sets the parity for the RS232 port to Odd.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



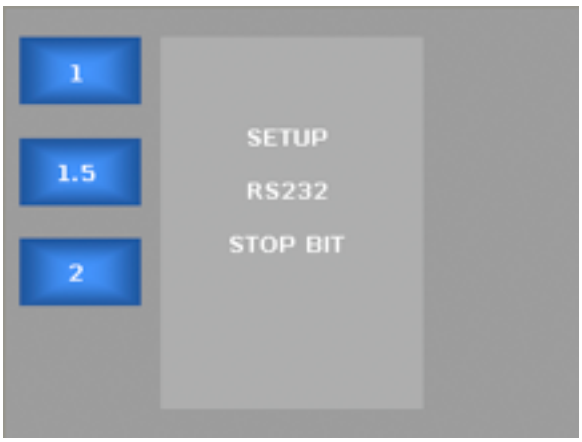
Navigation:
Main Menu > Setup > More > RS Port > RS232 > Parity

Stop Bit (RS232) Menu

The Stop Bit menu allows the user to configure the number of stop bits used in RS232 communications.

- **1** - Sets the RS232 port to one (1) stop bit.
- **1.5** - Sets the RS232 port to one and a half (1.5) stop bits.
- **2** - Sets the RS232 port to two (2) stop bits.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



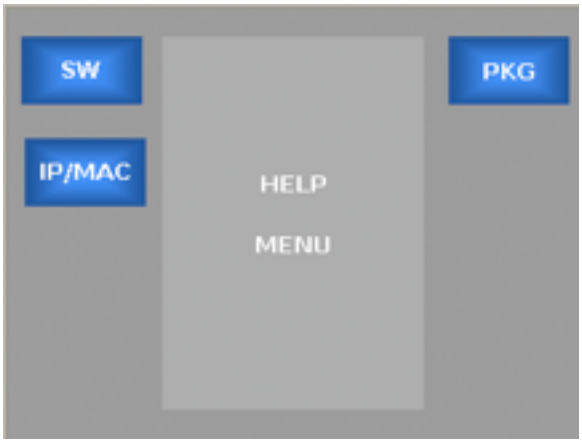
Navigation:
Main Menu > Setup > RS Port > RS232 > Stop Bit

Help Menu

The Help menu provides access to the following information:

- **SW** – Takes the user to the Software (SW) menu.
- **IP/MAC** – Takes the user to the IP/MAC address menu.
- **PKG** – Takes the user to the Package (PKG) menu.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.



Navigation:
Main Menu > Help

SW Menu

The SW menu displays the VC100 software and firmware versions.

- **SW VERSION** – Shows the software version of the VC100 chassis.
- **FP SW VERSION** – Shows the software version of the VC100 front panel (local).
- **BOOT VERSION** - Shows software version of the VC100 chassis Bootloader .
- **FP BOOT VERSION** - Shows software version of the VC100 front panel Bootloader
- **SAP FPGA VERSION** – Shows the firmware version of the SDI Ancillary Processing FPGA.
- **AM FPGA VERSION** – Shows the firmware version of the Audio Mapper FPGA.
- **VM FPGA VERSION** – Shows the firmware version of the Video Mapper FPGA.
- **UPGRADE** - Not functional / Future expansion.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Navigation:
Main Menu > Help > SW

IP/MAC Menu

The IP/MAC menu displays the IP address and MAC address of the VC100.

- **IP ADDRESS** – Shows the IP address of the VC100 chassis.
- **MAC ADDRESS** – Shows the MAC address of the VC100 chassis.

➡ Press the ***Back*** button to move to the previous menu.
➡ Press the ***Home*** button to go back to the Main menu.

Navigation:
Main Menu > Help > IP/MAC

Packages Menu

The Packages menu displays the Software packages enabled on the VC100.

Packages	Description
VC100	Single channel VC100
VC100-2CH	Dual channel VC100
VC1-SDNR	SD Noise Reduction option
VC1-HDNR	SD/HD Noise Reduction option
VC1-SDSTDS	SD Standards Conversion option
VC1-HDSTDS	SD/HD Standards Conversion option

- Press the ***Back*** button to move to the previous menu.
- Press the ***Home*** button to go back to the Main menu.

Navigation:
Main Menu > Help > PKG

System Messages

System Messages – Non-critical Alerts

SYSTEM FAULT NON-CRITICAL FAN FAILURE

- A non-critical system fault indicating that there is a problem with one or more of the internal fans.

SYSTEM FAULT NON-CRITICAL OVER TEMP

- A non-critical system fault indicating that there is a temperature problem in the chassis.

SYSTEM FAULT NON-CRITICAL REF1 ERROR

- A non-critical system fault indicating that there is a problem with External Reference 1.

SYSTEM FAULT NON-CRITICAL REF2 ERROR

- A non-critical system fault indicating that there is a problem with External Reference 2.

System Message – Critical Alerts

SYSTEM FAULT CRITICAL COMM FAULT AUDIO BOARD

- A critical system fault indicating that there is a problem with the communication between the Audio option board and the main chassis.

SYSTEM FAULT CRITICAL COMM FAULT PANEL

- A critical system fault indicating that there is a problem with the communication between the Local Control Panel and the main chassis.

SYSTEM FAULT CRITICAL FAN FAILURE

- A critical system fault indicating that there is a problem with the internal fans.

SYSTEM FAULT CRITICAL MOTHERBOARD VOLTAGE

- A critical system fault indicating that there is a problem with the one or more of the power supply voltages on the chassis motherboard.

SYSTEM FAULT CRITICAL OVER TEMP

- A critical system fault indicating that there is a problem with the internal temperature of the chassis.

System Message – Critical Alerts (continued)

SYSTEM FAULT CRITICAL COMM FAULT VIDEO BOARD

- A critical system fault indicating that there is a problem with the communication between the Video option board and the main chassis.

System Messages

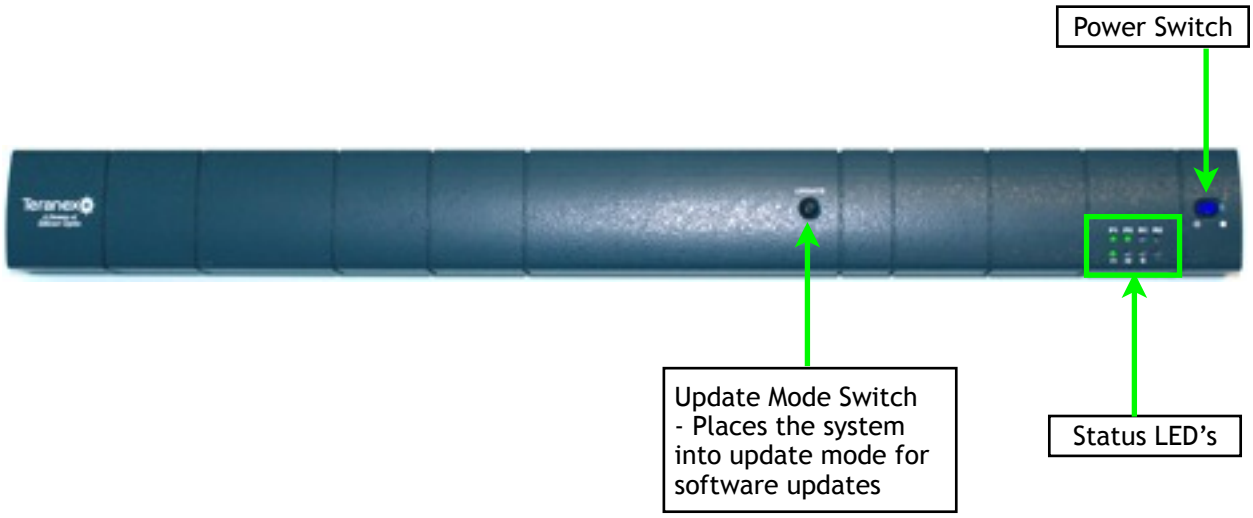
THIS MODE REQUIRES BOTH PROC CHANNELS

- A system message indicating that the conversion being selected requires the use of both video processing channels

Note: When the system is set to use both video processing channels for a particular video conversion, such as HD-FRC (e.g.: 1080i59.94 to 1080i50), the video input must be selected via IN-1 and the video output must be defined as OUT-2.

Status Front Panel

The VC100 must have either a Local Control Panel (VC1-LCP) or a Status Front Panel (VC1-SFP) attached to the chassis in order to operate. In situations where the user wants to control the VC100 through a Remote Control Panel or the Web Server, a Status Front Panel maybe connected to the chassis when local control is not desired.



Status LED's

- P1 - Power Supply 1
- P2 - Power Supply 2
- R1 - Reference Input 1
- R2 - Reference Input 2
- I1 - Video Input 1
- I2 - Video Input 2
- S1 - System Status 1
- Unused

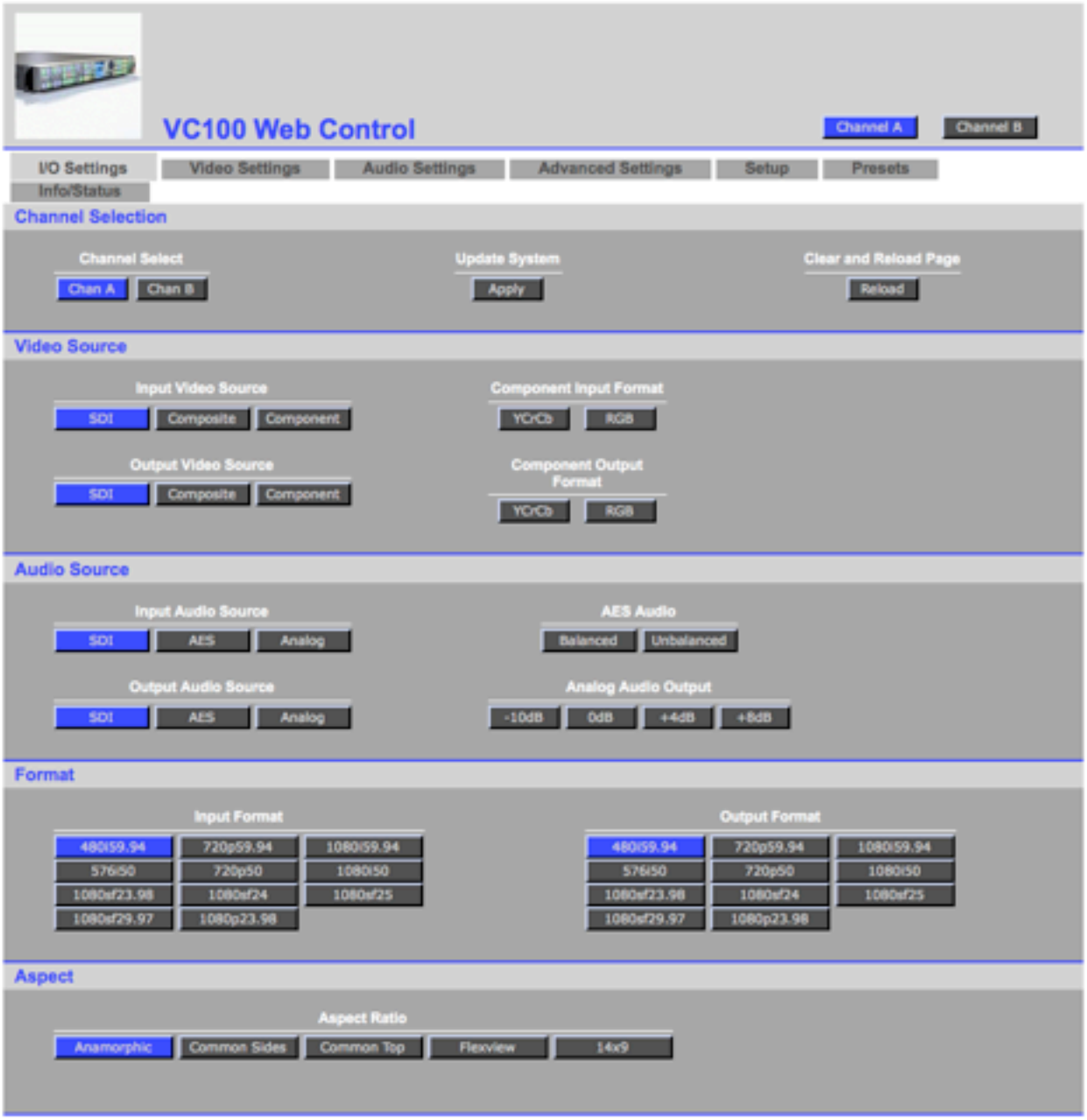
Web Server

A web server has been implemented

- The web page allows for basic control of the VC100 from any web browser
- To access a VC100 on your network, type the IP address of the VC100 that you wish to control into your web browser's URL. The IP Address of your VC100 can be found in the Help Menu.

Note: At present it is recommended that you use the Firefox (www.firefox.com) web browser to connect to the web server in the VC100.

Web Control - I/O Settings



Web Control - Video Settings

Web Control - Audio Settings

Web Control - Advanced Settings

Web Control - Setup

Web Control - Presets

Appendix A – Audio Cables

Cable & Pin-outs

Analog Audio IO Break Out Cable
Connector: Molex LFH

LFH Pos	Signal Description	XLR (Female)	LFH Pos	Signal Description	XLR (Male)
1	Channel 8 RX+ Signal	2	31	Channel 8 TX+ Signal	2
2	Channel 8 RX Ground	1	32	Channel 8 TX Ground	1
3	Channel 8 RX- Signal	3	33	Channel 8 TX- Signal	3
4	NC		34	NC	
5	Channel 7 RX+ Signal	2	35	Channel 7 TX+ Signal	2
6	Channel 7 RX Ground	1	36	Channel 7 TX Ground	1
7	Channel 7 RX- Signal	3	37	Channel 7 TX- Signal	3
8	NC		38	NC	
9	Channel 6 RX+ Signal	2	39	Channel 6 TX+ Signal	2
10	Channel 6 RX Ground	1	40	Channel 6 TX Ground	1
11	Channel 6 RX- Signal	3	41	Channel 6 TX- Signal	3
12	NC		42	NC	
13	Channel 5 RX+ Signal	2	43	Channel 5 TX+ Signal	2
14	Channel 5 RX Ground	1	44	Channel 5 TX Ground	1
15	Channel 5 RX- Signal	3	45	Channel 5 TX- Signal	3
16	Channel 4 RX+ Signal	2	46	Channel 4 TX+ Signal	2
17	Channel 4 RX Ground	1	47	Channel 4 TX Ground	1
18	Channel 4 RX- Signal	3	48	Channel 4 TX- Signal	3
19	NC		49	NC	
20	Channel 3 RX+ Signal	2	50	Channel 3 TX+ Signal	2
21	Channel 3 RX Ground	1	51	Channel 3 TX Ground	1
22	Channel 3 RX- Signal	3	52	Channel 3 TX- Signal	3
23	NC		53	NC	
24	Channel 2 RX+ Signal	2	54	Channel 2 TX+ Signal	2
25	Channel 2 RX Ground	1	55	Channel 2 TX Ground	1
26	Channel 2 RX- Signal	3	56	Channel 2 TX- Signal	3
27	NC		57	NC	
28	Channel 1 RX+ Signal	2	58	Channel 1 TX+ Signal	2
29	Channel 1 RX Ground	1	59	Channel 1 TX Ground	1
30	Channel 1 RX- Signal	3	60	Channel 1 TX- Signal	3

AES Audio IO Break Out Cable (Balanced)
Connector: Molex LFH

LFH Pos	Signal Description	XLR (Female)	LFH Pos	Signal Description	XLR (Male)
1	Channel 8 RX+ Signal	2	31	Channel 8 TX+ Signal	2
2	Channel 8 RX Ground	1	32	Channel 8 TX Ground	1
3	Channel 8 RX- Signal	3	33	Channel 8 TX- Signal	3
4	NC		34	NC	
5	Channel 7 RX+ Signal	2	35	Channel 7 TX+ Signal	2
6	Channel 7 RX Ground	1	36	Channel 7 TX Ground	1
7	Channel 7 RX- Signal	3	37	Channel 7 TX- Signal	3
8	NC		38	NC	
9	Channel 6 RX+ Signal	2	39	Channel 6 TX+ Signal	2
10	Channel 6 RX Ground	1	40	Channel 6 TX Ground	1
11	Channel 6 RX- Signal	3	41	Channel 6 TX- Signal	3
12	NC		42	NC	
13	Channel 5 RX+ Signal	2	43	Channel 5 TX+ Signal	2
14	Channel 5 RX Ground	1	44	Channel 5 TX Ground	1
15	Channel 5 RX- Signal	3	45	Channel 5 TX- Signal	3
16	Channel 4 RX+ Signal	2	46	Channel 4 TX+ Signal	2
17	Channel 4 RX Ground	1	47	Channel 4 TX Ground	1
18	Channel 4 RX- Signal	3	48	Channel 4 TX- Signal	3
19	NC		49	NC	
20	Channel 3 RX+ Signal	2	50	Channel 3 TX+ Signal	2
21	Channel 3 RX Ground	1	51	Channel 3 TX Ground	1
22	Channel 3 RX- Signal	3	52	Channel 3 TX- Signal	3
23	NC		53	NC	
24	Channel 2 RX+ Signal	2	54	Channel 2 TX+ Signal	2
25	Channel 2 RX Ground	1	55	Channel 2 TX Ground	1
26	Channel 2 RX- Signal	3	56	Channel 2 TX- Signal	3
27	NC		57	NC	
28	Channel 1 RX+ Signal	2	58	Channel 1 TX+ Signal	2
29	Channel 1 RX Ground	1	59	Channel 1 TX Ground	1
30	Channel 1 RX- Signal	3	60	Channel 1 TX- Signal	3

AES Audio IO Cable (Unbalanced)
Connector: Molex LFH Mtx 50

LFH Pos	Signal Description	BNC Connector	LFH Pos	Signal Description	BNC Connector
1	Channel 8 RX+ Signal	1 (Pin)	31	Channel 8 TX+ Signal	1 (Pin)
2	NC		32	NC	
3	Channel 8 RX- Signal	2 (Shield)	33	Channel 8 TX- Signal	2 (Shield)
4	NC		34	NC	
5	Channel 7 RX+ Signal	1 (Pin)	35	Channel 7 TX+ Signal	1 (Pin)
6	NC		36	NC	
7	Channel 7 RX- Signal	2 (Shield)	37	Channel 7 TX- Signal	2 (Shield)
8	NC		38	NC	
9	Channel 6 RX+ Signal	1 (Pin)	39	Channel 6 TX+ Signal	1 (Pin)
10	NC		40	NC	
11	Channel 6 RX- Signal	2 (Shield)	41	Channel 6 TX- Signal	2 (Shield)
12	NC		42	NC	
13	Channel 5 RX+ Signal	1 (Pin)	43	Channel 5 TX+ Signal	1 (Pin)
14	NC		44	NC	
15	Channel 5 RX- Signal	2 (Shield)	45	Channel 5 TX- Signal	2 (Shield)
16	Channel 4 RX+ Signal	1 (Pin)	46	Channel 4 TX+ Signal	1 (Pin)
17	NC		47	NC	
18	Channel 4 RX- Signal	2 (Shield)	48	Channel 4 TX- Signal	2 (Shield)
19	NC		49	NC	
20	Channel 3 RX+ Signal	1 (Pin)	50	Channel 3 TX+ Signal	1 (Pin)
21	NC		51	NC	
22	Channel 3 RX- Signal	2 (Shield)	52	Channel 3 TX- Signal	2 (Shield)
23	NC		53	NC	
24	Channel 2 RX+ Signal	1 (Pin)	54	Channel 2 TX+ Signal	1 (Pin)
25	NC		55	NC	
26	Channel 2 RX- Signal	2 (Shield)	56	Channel 2 TX- Signal	2 (Shield)
27	NC		57	NC	
28	Channel 1 RX+ Signal	1 (Pin)	58	Channel 1 TX+ Signal	1 (Pin)
29	NC		59	NC	
30	Channel 1 RX- Signal	2 (Shield)	60	Channel 1 TX- Signal	2 (Shield)

Appendix B – Preset Files

Basic User Preset

The following table details the parameters that are recalled in the Basic user presets.

Basic Preset	
Function	**Comments**
Aperture Slider	for frame-rate conversions
B-Y Level	
Black Level	
Closed Caption Detect Field 2 Information	
Closed Caption Detection Line	
Closed Caption on/off	
Closed Caption Output Line Number	for HD outputs
Detail Enhance	
Edge Trim – Horizontal	
Edge Trim – Vertical	
Hue Phase	
Proc Amp Bypass	
R-Y Level	
Noise Reduction Red Overlay	
Saturation	
Sharpness	
Auto / Film / Video	
Noise Reduction Split Screen	
Video Test Signals	enables video test signals
Timecode Output Line Select	for SD outputs
Noise Reduction On/Off	
Noise Reduction Bias Level	
Video Gain	
Zoom / Crop	

Full User Preset

The following table details the parameters that are recalled in the Full user presets.

Full Preset	
Function	**Comments**
Aperture Slider	for frame-rate conversions
Aspect Ratio	select fixed aspect ratios
B-Y Level	
Black Level	
Closed Caption Detect Field 2 Information	
Closed Caption Detection Line	
Closed Caption on/off	
Closed Caption Output Line Number	for HD outputs
Detail Enhance	
Edge Trim – Horizontal	
Edge Trim – Vertical	
IN1 / IN2 / REF1 / REF2	select external reference source
INPUT / BLACKBURST / TRI-I / TRI-P	select external reference type
Hue Phase	
Input / Output Format	
Input / Output (Video) Source	
Input Audio Source	
Input Format	
Input Video Source	
Output Audio Source	
Output Format	
Output Video Source	
Proc Amp Bypass	
R-Y Level	
Noise Reduction Red Overlay	
Saturation	
Sharpness	
Auto / Film / Video	
Noise Reduction Split Screen	
Video Test Signals	enables video test signals
Timecode Output Line Select	for SD outputs
Noise Reduction On/Off	
Noise Reduction Bias Level	
Video Gain	
Zoom / Crop	

Appendix C - VC100 Formats

VC100 - Basic Formats

Input	Output	Input	Output	Input	Output
480i59.94 to	480i59.94 576sf23.98 720p59.94 1080i59.94 1080sf23.98 1080sf29.97	720p59.94 to	480i59.94 576sf23.98 720p59.94 1080i59.94 1080sf23.98 1080sf29.97	1080i59.94 to	480i59.94 576sf23.98 720p59.94 1080i59.94 1080sf23.98 1080sf29.97
576i50 to	576i50 720p50 1080i50 1080sf25	720p50 to	576i50 720p50 1080i50 1080sf25	1080i50 to	576i50 720p50 1080i50 1080sf25
576sf23.98 to	480i59.93 576sf23.98 720p59.94 1080i59.94 1080sf23.98	1080sf23.98 to	480i59.94 576sf23.98 720p59.94 1080i59.94 1080sf23.98	1080sf24 to	1080sf24
1080sf25 to	576i50 720p50 1080i50 1080sf25	1080sf29.97 to	480i59.94 720p59.94 1080i59.94 1080sf29.97		

VC100 - VC1-SDSTDS Package Formats

Input	Output	Input	Output	Input	Output
480i59.94 to	576i50 720p50 1080i50 1080sf24 1080sf25	720p59.94 to	576i50	1080i59.94 to	576i50
576i50 to	480i59.94 720p59.94 1080i59.94 1080sf23.98 1080sf24 1080sf29.97	720p50 to	480i59.94	1080i50 to	480i59.94
1080sf23.98 to	5765i0	1080sf24 to	480i59.94 576i50	1080sf25 to	480i59.94
1080sf29.97 to	576i50				

VC100 - VC1-HDSTDS Package Formats

Input	Output	Input	Output	Input	Output
480i59.94 to	576i50 720p50 1080i50 1080sf24 1080sf25	720p59.94 to	576i50 720p50 1080i50 1080sf24 1080sf25	1080i59.94 to	576i50 720p50 1080i50 1080sf24 1080sf25
576i50 to	480i59.94 720p59.94 1080i59.94 1080sf23.98 1080sf24 1080sf29.97	720p50 to	480i59.94 720p59.94 1080i59.94 1080sf23.98 1080sf24 1080sf29.97	1080i50 to	480i59.94 720p59.94 1080i59.94 1080sf23.98 1080sf24 1080sf29.97
1080sf23.98 to	576i50 720p50 1080i50 1080sf24 1080sf25 1080sf29.97	1080sf24 to	480i59.94 576i50 720p50 720p59.94 1080i50 1080i59.94 1080sf23.98 1080sf25 1080sf29.97	1080p24 to	480i59.94 1080i59.94
1080sf25 to	480i59.94 720p59.94 1080i59.94 1080sf23.98 1080sf24 1080sf29.97	1080sf29.97 to	576i50 720p50 1080i50 1080sf23.98 1080sf24 1080sf25		

Appendix D - RS232/RS422 Port

Pin #	RS232	RS422	Pin #	RS232	RS422
1	GND	GND	6	no connect	no connect
2	RX	RX+	7	no connect	RX-
3	TX	TX+	8	no connect	TX-
4	no connect	no connect	9	no connect	no connect
5	GND	GND			

Appendix E - GPI

The GPI electrical interface is 3.3V LVTTL, tolerant to 5V TTL (same as UVC). Here's the pinout for GPI connector.

Pin #	Signal	GPI #	Pin #	Signal	GPI #
1	GND		6	GPI_IN2	GPI_3
2	GPI_IN0	GPI_1	7	GPI_IN3	GPI_4
3	GND		8	GPI_IN4	GPI_5
4	GPI_IN1	GPI_2	9	GPI_IN5	GPI_6
5	GND				

Appendix F - Directory Structure on USB Storage Device

Global Preset Files

Drive:\Teranex\VC100\Global\Preset

- All Global preset files should be in this directory at the top level
- There will be 6 Preset files plus 1 Default Preset file per video processing channel (a single channel system will have 7 files, a dual channel systems will have 14 files)
- Global Presets can be loaded on any VC100

System Preset Files

Drive:\Teranex\VC100\xxxxxx\Preset

- xxxxxx represents the last 6 characters of the system's MAC address
- All System Preset files should be in this directory at the top level
- There will be 6 Preset files plus 1 Default Preset file per video processing channel (a single channel system will have 7 files, a dual channel systems will have 14 files)
- System Presets can only be loaded on the VC100 that they were saved from. When the Presets are saved, they are placed in a Folder labeled with the last 6 characters of the system MAC address.)

Logo Files

Drive:\Teranex\VC100\Logo

- There are 4 Logo memory locations in the VC100, each location can hold 4 logo files corresponding to the four primary output resolutions (480, 576, 720, 1080)
- Load the logo bitmap files with the following naming convention:
  - LogoX-YYYY.bmp where:
    - X is the logo number (1-4)
    - YYYY is the output resolution where the logo will be used (i.e. – 480, 576, 720, 1080)

Appendix G - Video Indexing

Wide Screen Signaling (WSS)

Wide Screen Signaling (WSS) was designed for use in 625 analog television systems. It can carry several types of information:

- Image format (ratio)
- Type of Sound
- Copyright
- Presence of close-caption

In the digital SD-SDI video domain, only the format ratio information is utilized. This information is coded on the video half-line number 23. The VC100 supports the standard mode of WSS (8 presets).

The VC100 supports WSS in the following format conversions:

Input	Output
576i50	720p50
576i50	1080i50

The VC100 will respond to the following WSS presets:

Input Standard	Code	Input Aspect	VC100 Output Aspect
1	1	16:9 Anamorphic	Anamorphic
4	1101	Letterbox	Common Sides
8	1110	4:3	Common Top & Bottom

When WSS is on and no flags are present the system will switch to the Common Top & Bottom aspect ratio.

Note: WSS support is mutually exclusive with RP186 & AFD. The VC100 can only be set to respond to one of flagging schemes at a time.

Note: At present the VC100 will not pass or insert WSS codes. It will only respond to them if WSS is enabled and a flag is present.

Video Index Information Coding

Video Index Information Coding, SMPTE RP186, was designed for use in 525 and 625 analog television systems. It can carry several types of information:

- Image format (ratio)
- Pan & Scan Data
- Technical Heritage Information
- User Information (including program ID, station or production company, tape information, date of production, studio lighting information and lens type)

The VC100 supports RP186 in the following format conversions:

Input	Output
480i59.94	720p59.94
480i59.94	1080i59.94
576i50	720p50
576i50	1080i50

The VC100 will respond to the RP186 data field shown in Blue (Class 1.1, Data octet 1):

Scanning System	B7	B6	B5	B4	B3	B2	B1	B0	VC100 Output Aspect
No Information	0	0	0	0	0	0	0	0	No Response
480i59.94 (4:3)	0	0	0	0	0	0	0	1	Common Top & Bottom
576i50 (4:3)	0	0	0	0	0	0	1	0	Common Top & Bottom
Reserved	0	0	0	0	0	0	1	1	No Response
Reserved	0	0	0	0	0	1	0	0	No Response
480i59.94 (16:9)	0	0	0	0	0	1	0	1	Anamorphic
576i50 (16:9)	0	0	0	0	0	1	1	0	Anamorphic
Reserved, from	0	0	0	0	0	1	1	1	No Response
through	1	1	1	1	1	1	1	1	No Response

When RP186 is on and no flags are present the system will switch to the Common Top & Bottom aspect ratio.

Note: RP186 support is mutually exclusive with WSS & AFD. The VC100 can only be set to respond to one of flagging schemes at a time.

Note: At present the VC100 will not pass or insert RP186 codes. It will only respond to them if RP186 is enabled and a flag is present.

Active Format Description (AFD)

Active Format Description, SMPTE-2016-1, 2, 3, 4, 5 was designed for use with SD & HD digital television systems. It can carry several types of information:

- Image format (ratio)
- Bar Data
- Pan & Scan Data

The VC100 supports AFD in the following format conversions:

- All formats are supported by AFD.

AFD Insertion - Automatic Mode

The AFD code that corresponds to the current output aspect ratio will be inserted as shown below.

VC100 Aspect Ratios (4:3 coded frame)	AFD code (a3, a2, a1, a0)
Common Top & Bottom	1000'
Common Sides	1010'
Anamorphic	1000'
14:9	1011'
Flexview	no code
VC100 Aspect Ratios (16:9 coded frame)	AFD code (a3, a2, a1, a0)
Common Top & Bottom	1001'
Common Sides	1000'
Anamorphic	1010'
14:9	1011'
Flexview	no code

AFD Insertion codes for a 4:3 output frame

4:3 coded frame	AFD code (a3, a2, a1, a0)
undefined	0000’
reserved	0001’
letterbox 16:9 image, at top of coded frame	0010’
letterbox 14:9 image, at top of coded frame	0011’
letterbox image with an aspect ratio greater the n16:9, vertically centered in the coded frame	0100’
reserved	0101’
reserved	0110’
reserved	0111’
full frame 4:3 image, the same as the coded frame	1000’
full frame 4:3 image, the same as the coded frame	1001’
letterbox 16:9 image, vertically centered in the coded frame will all image areas protected	1010’
letterbox 14:9 image, vertically centered in the coded frame	1011’
reserved	1100’
full frame 4:3 image, with alternative 14:9 center	1101’
letterbox 16:9 image, with alternative 14:9 center	1110’
letterbox 16:9 image, with alternative 4:3 center	1111’

AFD Insertion codes for a 16:9 output frame

16:9 coded frame	AFD code (a3, a2, a1, a0)
undefined	0000'
reserved	0001'
full frame 16:9 image, the same as the coded frame	0010'
pillarbox 14:9 image, horizontally centered in the coded frame	0011'
letterbox image with an aspect ratio greater then 16:9, vertically centered in the coded frame	0100'
reserved	0101'
reserved	0110'
reserved	0111'
full frame 16:9 image, the same as the coded frame	1000'
pillarbox 4:3 image, horizontally centered in the coded frame	1001'
full frame 16:9 image, with all image areas protected	1010'
pillarbox 14:9 image, horizontally centered in the coded frame	1011'
reserved	1100'
pillarbox 4:3 image, with alternative 14:9 center	1101'
full frame 16:9 image, with alternative 14:9 center	1110'
full frame 16:9 image, with alternative 4:3 center	1111'

AFD Reaction Codes for a 4:3 coded frame

The VC100 will react to the four codes highlighted above by changing the output aspect ratio to the one shown in the output aspect ratio column.

4:3 coded frame	AFD code (a3, a2, a1, a0)	output aspect ratio
undefined	0000'	no response
reserved	0001'	no response
letterbox 16:9 image, at top of coded frame	0010'	no response
letterbox 14:9 image, at top of coded frame	0011'	no response
letterbox image with an aspect ratio greater the n16:9, vertically centered in the coded frame	0100'	no response
reserved	0101'	no response
reserved	0110'	no response
reserved	0111'	no response
full frame 4:3 image, the same as the coded frame	1000'	common top & bottom
full frame 4:3 image, the same as the coded frame	1001'	common top & bottom
letterbox 16:9 image, vertically centered in the coded frame will all image areas protected	1010'	common sides
letterbox 14:9 image, vertically centered in the coded frame	1011'	14:9
reserved	1100'	no response
full frame 4:3 image, with alternative 14:9 center	1101'	no response
letterbox 16:9 image, with alternative 14:9 center	1110'	no response
letterbox 16:9 image, with alternative 4:3 center	1111'	no response

AFD Reaction Codes for a 16:9 coded frame

The VC100 will react to the four codes highlighted above by changing the output aspect ratio to the one shown in the output aspect ratio column.

16:9 coded frame	AFD code (a3, a2, a1, a0)	output aspect ratio
undefined	0000'	no response
reserved	0001'	no response
full frame 16:9 image, the same as the coded frame	0010'	no response
pillarbox 14:9 image, horizontally centered in the coded frame	0011'	no response
letterbox image with an aspect ratio greater then 16:9, vertically centered in the coded frame	0100'	no response
reserved	0101'	no response
reserved	0110'	no response
reserved	0111'	no response
full frame 16:9 image, the same as the coded frame	1000'	anamorphic
pillarbox 4:3 image, horizontally centered in the coded frame	1001'	common top & bottom
full frame 16:9 image, with all image areas protected	1010'	common sides
pillarbox 14:9 image, horizontally centered in the coded frame	1011'	14:9 pillarbox
reserved	1100'	no response
pillarbox 4:3 image, with alternative 14:9 center	1101'	no response
full frame 16:9 image, with alternative 14:9 center	1110'	no response
full frame 16:9 image, with alternative 4:3 center	1111'	no response

Appendix H - Guidelines for Logo Creation

Note: The VC100 currently only accepts logos in 24-bit bitmap (.bmp) format.

Logos are resolution dependent. They are overlayed on the output image pixel-for-pixel as created. This requires that each logo be created in the actual size desired for each output resolution needed. There are 4 slots for LOGO1, one for each output resolution supported, 720x486, 720x576, 1280x720 and 1920x1080. The user can store different logos for each resolution if desired. This is repeated for LOGO2, LOGO3, and LOGO4.

The user can specify a background transparent color that will be ignored by the VC100. This color can be adjusted through the Transparent R, G and B sliders. Whatever color is set as transparent color will be ignored by the VC100 and the video will be passed through. This transparent color is saved as part of a preset store/recall.

Loading Logo Files via USB

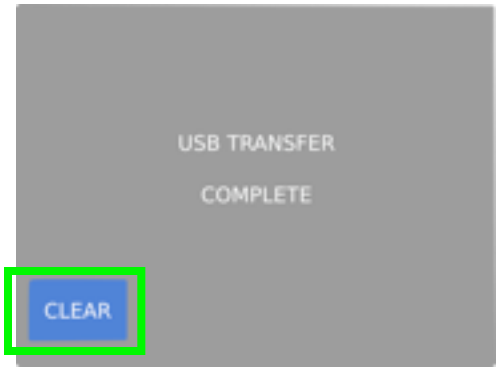
1. Create the top level directory "Teranex/VC100/Logo" in the root directory of the USB storage device.
2. Load the logo bitmap files with the following naming convention:
3. LogoX-YYYY.bmp where:
   - X is the logo number (1-4)
   - YYYY is the output resolution where the logo will be used (i.e. – 480, 576, 720, 1080)

Note: A total of 16 logos can be loaded, 4 at each of the four output resolutions.

4. Insert the USB storage device into the USB port on the local Control Panel. The message, "USB DEVICE CONNECTED" will appear on the Control Panel display. Press Clear and wait approximately 10 seconds.

Note: If the USB storage device has an LED, it will stop flashing when the USB storage device is ready.

5. Navigate to the Logo Menu and Press the USB button.
   - A message "USB TRANSFER IN PROGRESS" will appear.
   - Wait for the message "USB TRANSFER COMPLETE" to appear
   - Press the Clear button.
   - The Logos should now be ready for use.



System Specifications

Video Input

SD- & HD-SDI Input (2 Inputs)

- SD/HD-SDI, 10-bit serial digital input at 270Mb/s per SMPTE-259 or 20-bit serial digital input at 1.485Gb/s per SMPTE 292, SD audio de-embedding per SMPTE 272 or HD audio de-embedding per SMPTE-299
- Formats SD: 480i59.94, 576i50
- Formats HD: SMPTE-274M: 1080i59.94, 1080i50, 1080sf23.98, 1080sf24, 1080sf25, 1080sf29.97
- Formats HD: SMPTE-296M: 720p59.94, 720p50
- Cable Length SD: 300m (1000ft.) Belden 1694A at 270Mb/s and HD: 110m (350ft.) Belden 1694A at 1.485Gb/s
- There are active loop-thru connections for each SDI input

SD-, HD- & 3G-SDI Input (2 Inputs) (requires VC1-3GIO option) - New

- SD/HD/3G-SDI, 10-bit serial digital input at 270Mb/s per SMPTE-259 or 20-bit serial digital input at 1.485Gb/s per SMPTE 292 or 20/30-bit serial digital input at 2.97Gb/s per SMPTE 424, SD audio de-embedding per SMPTE 272 or HD/3G audio de-embedding per SMPTE-299.
- Formats SD: 480i59.94, 576i50
- Formats HD: SMPTE-274: 1080i59.94, 1080i50, 1080sf23.98, 1080sf24, 1080sf25, 1080sf29.97
- Formats HD: SMPTE-296: 720p59.94, 720p50
- Formats 3G: SMPTE-424: 1080p59.94, 1080p50 (20-bit, 4:2:2)
- There are active loop-thru connections for each SDI input

Analog Component Input (requires VC1-CCIO option)

- User selectable, YCrCb or RGB
- User selectable setup level on/off
- Can be assigned to video processing channel 1 or 2

Analog Composite Input (2 Inputs) (requires VC1-CCIO option)

- Analog composite input, 12-bit decoder, SMPTE RS-170A, CCIR-656
- Formats: NTSC, PAL
- User selectable AGC on/off
- User selectable setup level on/off
- User selectable controls for compositie decoder

SD- & HD-SDI Output (4 Outputs)

- SD/HD-SDI, 10-bit serial digital output at 270Mb/s per SMPTE-259 or 20-bit serial digital output at 1.485Gb/s per SMPTE 292-1997, SD audio embedding per SMPTE 272 or HD audio embedding per SMPTE-299
- Formats SD: 480i59.94, 576i50
- Formats HD: SMPTE-274: 1080i59.94, 1080i50, 1080sf23.98, 1080sf24, 1080sf25, 1080sf29.97
- Formats HD: SMPTE-296: 720p59.94, 720p50
- Return Loss: >15dB up to 1.5GHz per SMPTE-292
- Jitter: <0.2UI as per SMPTE-292

SD-, HD- & 3G-SDI Output (4 Outputs) (requires VC1-3GIO option) - New

- SD/HD/3G-SDI, 10-bit serial digital output at 270Mb/s per SMPTE-259 or 20-bit serial digital output at 1.485Gb/s per SMPTE 292 or 20/30-bit serial digital output at 2.97Gb/s per SMPTE-424, SD audio embedding per SMPTE 272 or HD/3G audio embedding per SMPTE-299.
- Formats SD: 480i59.94, 576i50
- Formats HD: SMPTE-274: 1080i59.94, 1080i50, 1080sf23.98, 1080sf24, 1080sf25, 1080sf29.97
- Formats HD: SMPTE-296: 720p59.94, 720p50
- Formats 3G: SMPTE-424: 1080p59.94, 1080p50 (20-bit, 4:2:2)
- Return Loss: >15dB up to 1.5GHz per SMPTE-292 and >10dB, 1.5GHz to 3GHz per SMPTE-424
- Jitter: Conforms to Jitter specs per SMPTE-259, SMPTE-292, and SMPTE-424

Analog Component Output (requires VC1-CCIO option)
- User selectable, YCrCb or RGB
- User selectable setup level on/off
- Can be assigned to video processing channel 1 or 2

Analog Composite Output (2 Outputs) (requires VC1-CCIO option)
- Analog composite output, 10-bit encoder, SMPTE RS-170A, CCIR-656
- Formats: NTSC, PAL
- User selectable setup level on/off

DVI Output (1 Output) (requires VC1-CCIO option)
- DVI-I output (1080i50 & 1080i59.94)

Reference Input (2 Inputs)
- SD Blackburst – SMPTE-170M or HD Tri-level (Interlaced or Progressive) Sync – SMPTE 274M / SMPTE296M

Audio Input/Output
Embedded audio
- 16-channels of embedded audio
- Sampling: 48kHz
- Quantization: SD: 20-bits, HD: 24-bits

Note: In a dual-channel VC100, eight (8) embedded audio channels are assigned to each video processing channel by default. The user may reallocate the audio across the two channels as 0:16, 4:12, 8:8:, 12:4 or 16:0. A single channel VC100 has all 16 channels of audio available.

Note: When the Audio Expansion Module (VC1-AEM option) is installed, each video processing channel will automatically support 16-channels of embedded audio.

AES Audio Input (requires VC1-AAIO option)
- 16-channels of AES audio
- User selectable as balanced or unbalanced

Analog Audio Input (requires VC1-AAIO option)
- 8-channels of analog audio

AES Audio Output (requires VC1-AAIO option)
- 16-channels of AES audio
- User selectable as balanced or unbalanced

Analog Audio Output (requires VC1-AAIO option)
- 8-channels of analog audio
- User selectable output reference level
  - -10dB, 0dB, +4dB, +8dB

Ancillary Data Input/Output
Closed Captions
- ITU-608 pass-through for 480i59.94 IO processing
- ITU-608 to ITU-708 translation for 480i59.94 up-conversions to 720p59.94 and 1080i59.94
- ITU-708 pass-through for 720p59.94 to 1080i59.94 and 1080i59.94 to 720p59.94
- Line 21 extraction for 60Hz down-conversions, 720p59.94 and 1080i59.94 to 480i59.94
- Closed caption is now supported on the analog composite output

Note: Closed Caption processing and/or pass-through is not supported on the analog composite input or on analog component input or output.

Vertical Interval Time Code (VITC)

- Supports vertical interval timecode (VITC) delay to automatically match the video processing delay.

Note: Timecode (VITC) processing and/or pass-through is not supported on the analog composite input or output.

Linear Time Code (LTC) - New

- Supports linear timecode (LTC) delay via the LTC (BNC) Input and Output connections on the rear panel (see page 15) to automatically match the video processing delay.

Note: Linear Timecode (LTC) processing is available for pass-through formats.

Video Indexing - New (AFD)

- Supports WSS, RP186, AFD
- AFD support includes Reaction to incoming AFD codes and the Insertion of AFD codes in the output video signal.

Processing Features

Input Detect

- Automatic SDI input and format detection, can be set manually

Loss of Input

- On input loss unit can be set to generate Black, Color Bar signal, or freeze last frame

Video Proc Amp

- Video gain – adjustable +/- 6dB, default = 0
- Black Level – adjustable +/- 30mV, default = 0
- Hue – adjustable -179 to +178, default = 0
- Saturation – adjustable +/- 6dB, default = 0
- R-Y – adjustable +/- 200mv, default = 0
- B-Y – adjustable +/- 200mV, default = 0

Enhance

- Detail Enhance - adjustable 0 to 100, default = 25
- Sharpness - adjustable 0 to 100, default = 0

Video Clip

- Luminance High – adjustable 0 to 1023, default = 0
- Luminance Low - adjustable 0 to 1023, default = 0
- Chroma High – adjustable 0 to 1023, default = 0
- Chroma Low - adjustable 0 to 1023, default = 0

Color Correction

- R Gain – adjustable +/- 6dB, default = 0
- G Gain – adjustable +/- 6dB, default = 0
- B Gain – adjustable +/- 6dB, default = 0

Colorspace Conversion

- Operates automatically based on the selected conversion
- There are no user controls for this function

Temporal Recursive Noise Reduction Filter

- Bias - adjustable +/- 6dB, default = 0
- Split screen - On/Off
- Red Overlay - On/Off

Auto, Film, Video
- Allows selection of auto, film or video processing modes. Default = Auto

Aspect Ratio Conversion
- Fixed Aspect Ratio Conversions
  - Common Top & Bottom
  - Common Sides
  - Anamorphic
  - Flexview
  - 14:9
- Supports SD to SD Aspect Ratio Conversions
- H & V Size - Adjustable -33% to +200%
- H & V Position - Adjustment range based on current image size
- H Trim - 0 to 200 pixels SD, 0 to 400 pixels HD
- V Trim - 0 to 200 lines SD, 0 to 400 lines HD
- Zoom/Crop – On/Off (Zoom by 3, Crop by 3)

Note: Flexview is only available in select up-conversions

Active Fill Information - New
- Allows the user to fill the blanking region in an up-conversion with a live video feed
- Trim - Trims the Left, Right, Top, and/or Bottom edges of the Active Fill region
- Shift - Shifts the main video feed to the Left, Right, Top, or Bottom edge of the output picture window
  - Hoizontal Symmetry - Centers the main video feed horizontally in the output picture window
  - Vertical Symmetry - Centers the main video feed vertically in the output picture window

Frame Sync with Audio Sample-rate Converters
- Supports Dolby-E pass-through

TVP (Teranex Video Processing)
- Low – Provides a low latency mode (2-frame delay))
- High – Provides full processing (4-frame delay)

Note: TVP Low mode cannot be used in any frame-rate conversion

Note: Noise reduction is not available when using the TVP Low mode

Scene Cut Detection - New
- Preserves clean cuts between scenes. Upon detecting a cut, the temporal aperture is reduced from 4- fields to 2-fields for the first frame in the new scene. This prevents uncorrelated data from being used in the conversion process at scene boundaries.

Test Pattern (Video) Generator
- SMPTE Color Bars
- 75% Full Field Color Bars
- Black
- Luminance Multi-burst
- Grid
- Color Multi-burst

Logo Insertion - New
- The VC100 supports 4 Logo files per video processing channel
- Logo On/Off
- Logo H Position
- Logo V Position
- Logo Transparent (Background) Color
- Logos are loaded into the VC100 via the USB port on the local Control Panel

Audio Processing
- Supports audio level adjustment per audio channel
  - -32dB to +16dB for embedded audio
- Supports audio phase adjustment per audio channel
  - +/- 180 degrees invert

Audio Channel Allocation
- Allows the user to configure the number of audio channels available to each video processing channel in a dual-channel system

Note: The Audio Channel Allocation setting is not available when the VC100 is fitted with the Audio Expansion Module (VC1-AEM). With the AEM installed the VC100 supports 16-channels of audio per video processing channel.

Delay
- The video processing delay for all application is 4 frames (unless TVP low latency mode is utilized, in which the processing delay is 2 frames)
- The audio delay may be adjusted from -100mS to +5 seconds

Dolby-E Decoding
- Decodes a Dolby-E pair to 8 discrete audio channels
- The user can assign any input audio pair to the Dolby-E decoder

Audio Test Tones
- 750Hz
- 1.5kHz
- 3kHz
- 6kHz
- Mute

Other

10/100-BaseT Ethernet (for remote control)
- User-assignable IP address
- Supports DHCP

Serial I/O
- Support RS232 for remote API communications
  - User selectable baud rate, parity and stop bit
- Support RS422 for remote API communications

User Presets
- The VC100 supports 6 User Presets per video processing channel
  - A 'Full' preset will recall all parameters
  - A 'Basic' preset will recall a subset of the parameters captured in the preset

User Presets - continued
- The VC100 supports 1 Power On Preset
  - This preset will be recalled each time the system is powered on

  - This preset will recall a 'Full' preset
- User Presets may be saved or recalled from a USB memory device, for off-line storage, via the USB port located on the control panel.

General Purpose Interface (GPI)

- The VC100 supports 6 GPI inputs
- Each GPI can be assigned to either processing channel
- Each GPI can be assigned to any of the 6 user Presets
- GPI triggers can be momentary closures or held low

Redundant Power Supply

- The VC100 contains a redundant power supply
- The redundant supply has a separate universal AC input (90-110V @ 60Hz, / 200-220V @ 50Hz, Auto Detect, Power Consumption 125W)

Note: The power supplies are not hot swappable. Two separate mains inputs are provided for facilities that support independent power grids for redundancy.

System Status LEDs (Local/Remote Control Panel)

- Audio LEDs – Shows the status of the audio channels (1 LED/channel)
- PS1 – Shows the status of power supply 1
- PS2 – Shows the status of power supply 2
- Ref1 – Shows the status of reference input 1
- Ref2 – Shows the status of reference input 2
- In1 – Shows the status of (Video) input 1
- In2 – Shows the status of (Video) input 2
- SYS – Shows the status of the VC100 in general
- USB – Shows the status of the USB port